Canada Mortgage
and Housing
Corporation

Société canadienne
d'hypothèques et
de logement

Compendium of Research 1986/87

Compendium de recherche 1986/87

CMHC Helping to house Canadians

Canada Mortgage and Housing Corporation, the Federal Government's housing agency, is responsible for administering the National Housing Act.

This legislation is designed to aid in the improvement of housing and living conditions in Canada. As a result, the Corporation has interests in all aspects of housing and urban growth and development.

Under Part V of this Act, the Government of Canada provides funds to CMHC to conduct research into the social, economic and technical aspects of housing and related fields, and to undertake the publishing and distribution of the results of this research. CMHC therefore has a statutory responsibility to make widely available, information which may be useful in the improvement of housing and living conditions.

This publication is one of the many items of information published by CMHC with the assistance of federal funds.

La Société canadienne d'hypothèques et de logement, l'organisme du logement du gouvernement du Canada, a pour mandat d'appliquer la Loi nationale sur l'habitation.

Cette loi a pour objet d'aider à améliorer les conditions d'habitation et de vie au Canada. C'est pourquoi la Société s'intéresse à tout ce qui concerne l'habitation, l'expansion et le développement urbains.

Aux termes de la Partie V de la Loi, le gouvernement du Canada autorise la SCHL à affecter des capitaux à des recherches sur les aspects socio-économiques et techniques du logement et des domaines connexes, et à publier et diffuser les résultats de ces recherches. La SCHL a donc une obligation légale de veiller à ce que tout renseignement de nature à améliorer les conditions d'habitation et de vie soit connu du plus grand nombre possible de personnes ou de groupes de personnes.

La présente publication est l'un des nombreux moyens d'information que la SCHL a produits avec l'aide de capitaux du gouvernement fédéral.

COMPENDIUM OF RESEARCH
1986/87

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COMPENDIUM DE RECHERCHE
1986/87

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Pour le

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INTRODUCTION

Under Part V of the National Housing Act, the Government of Canada provides funds to Canada Mortgage and Housing Corporation to conduct research into the social, economic and technical aspects of housing and related fields.

This fourth Compendium of Research has been compiled to publicize and increase access to the research and scholarship reports produced under research programs sponsored by the Corporation during 1986/87. A few reports not included in the earlier Compendiums have also been added.

ARRANGEMENT

The Compendium is arranged by broad subject area and consists of abstracts of Part V research reports, reports produced under the External Research Program, Operations Support Projects, and theses produced under the CMHC Scholarship Program. Detailed subject, author, and title indexes can be found at the end of the Compendium.

AVAILABILITY OF REPORTS

Most research reports are available from the Canadian Housing Information Centre. All theses and scholarship reports are available for consultation only at the Centre.

AVANT-PROPOS

En vertu de la Partie V de la loi nationale sur l'habitation, le gouvernement du Canada fournit des fonds à la Société canadienne d'hypothèques et de logement pour la recherche sur les aspects sociaux, économiques et techniques du logement et des domaines connexes.

Nous avons rassemblé ce quatrième Compendium de recherche afin de rendre publics et plus accessibles les rapports de recherches et d'études rédigés au titre de programmes de recherche que la Société a parrainés en 1986/87. Quelques rapports non compris dans les premiers Compendiums ont aussi été ajoutés.

PRESENTATION

Le Compendium se divise en domaines d'études généraux et réunit des abrégés de rapports de recherches préparés en application de la partie V, des rapports produits au titre du Programme de subventions de recherche, de projets de recherche pour l'application des programmes et enfin, des thèses et mémoires rédigés par des diplômés admis au Programme de bourses d'études de la Société. Des index matières, auteurs et titres plus détaillés se trouvent à la fin du Compendium.

CONSULTATION DES RAPPORTS

On peut se procurer la plupart des rapports de recherches au Centre canadien de documentation sur l'habitation. Quant aux thèses et mémoires de boursiers nous les avons tous en bibliothèque, mais il faut les consulter sur place.

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ARCHITECTURE / ARCHITECTURE

1.		
TITRE	:	Analyse morphologique et reconnaissance visuelle de l'ornement architectural dans un quartier résidentiel
AUTEUR	:	André Boucher
ADRESSE BIBLIOGRAPHIQUE:		Thèse (Maître en architecture) - Université Laval, 1986 (Programme de bourses d'études)

Cette étude avait pour objectif une exploration du processus de reconnaissance visuelle de l'ornement architectural tel qu'il est perçu dans la réalité quotidienne. Une organisation morphologique a été définie pour un ensemble de 34 garde-fous de balcons différents provenant d'un groupe de façades résidentielles. L'analyse de cette organisation a fait ressortir l'existence de composantes génériques assemblées selon un jeu combinatoire pour former les garde-fous. Les composantes ont été classées par "familles de motifs" selon le "motif élémentaire" servant de base à leur configuration. Les composantes appartenant à chaque famille de motifs ont été classées selon leur classe et leur groupe de symétrie respectifs.

Trente-six résidents des maisons d'où provenaient les garde-fous analysés, formés en trois groupes de taille égale, ont été soumis à un test de reconnaissance visuelle portant sur le garde-fou. L'objectif du test, pour chaque répondant, était de reconnaître la figure-stimulus correspondant au garde-fou de sa résidence.

Les résultats statistiquement significatifs concernent principalement le haut taux de correspondance stricte dans le test portant sur le garde-fou complet, la différence entre ce taux et celui qui a été observé pour l'ensemble des tests portant sur les composantes génériques isolées, ainsi que la différence entre les taux de correspondance observés selon le critère de correspondance stricte et l'ensemble des critères portant sur les propriétés morphologiques (famille de motifs et propriétés de symétrie). Un taux élevé et significatif de correspondance a été observé selon le critère de présence/absence des composantes génériques dans les garde-fous.

2.
TITRE : Les Références à la maison traditionnelle québécoise de la maison de banlieue
AUTEUR : Carole Despres
ADRESSE BIBLIOGRAPHIQUE: Thèse (Maître en architecture) - Université Laval, 1986
(Programme de bourses d'études)

Cette étude vise à observer l'évolution d'un phénomème d'emprunts stylistiques dans l'habitation populaire de banlieue dans le cas particulier de la maison néo-québécoise, et à déterminer si ces emprunts aux formes traditionnelles de l'architecture québécoise ont conservé leur valeur d'usage originale ou s'ils ne sont devenus que des moyens d'expression dans la recherche d'une identité territoriale et culturelle.

Les résultats démontrent que le contexte socio-politique au Québec dans les années 70 correspond à la naissance du style québécois dans les banlieues. La popularité de la maison néo-québécoise tient aussi au prestige social qu'elle représente. Sa valeur mobilière supérieure au bungalow type de banlieue en fait un signe de distinction social.

3.
TITRE : Traits stylistiques, dimensions et proportions des façades dans l'architecture populaire urbaine
AUTEUR : Pierre Larochelle et Naomi Neumann
ADRESSE BIBLIOGRAPHIQUE: Québec, Qué. : École d'architecture, Université Laval, 1985
(Programme de bourses d'études)

Cette étude fait suite à une première étude réalisée en 83-84 par les mêmes chercheurs: "Étude des composantes des façades dans l'architecture populaire des quartiers urbains anciens". La recherche poursuit trois objectifs:

1. L'exploration des typologies des façades et des traits stylistiques de leurs composantes, leurs fréquences, et combinaisons;

2. L'identification des modalités dimensionnelles de ces composantes; et

3. La comparaison de deux quartiers édifiés à une même époque mais appartenant à des milieux urbains différents (le quartier Saint-Jean Baptiste à Montréal et le Faubourg Saint-Jean Baptiste à Québec).

Les résultats de l'analyse confirment l'existence d'une dispersion relativement restreinte des dimensions et des rapports dimensionnels pour la majorité des composantes des façades. Les variances s'expliquent par la période de construction, par les traits typologiques des maisons, et par les traits stylistiques des composantes elles-mêmes. La comparaison des résultats avec ceux de l'étude de Québec révèle des différences dans la typologie architecturale et la morphologie urbaine. Néanmoins, les deux quartiers ont subi des évolutions analogues.

BUILDING RECYCLING / RECYCLAGE DE BÂTIMENTS

4.
TITLE : The Conversion of Industrial Buildings Through Their Conversion to Housing
AUTHOR : Richard M. Unterman
IMPRINT: Thesis (M.A.) - University of York, Great Britain, 1986 (Scholarship Program)

This study tries to establish the link between good conservation practice and successful adaptive re-use for housing in historic industrial buildings in Britain.

It examines:

- The problem of industrial building redundancy and its impact on the real estate market;
- Ways of keeping historic, aesthetic, and cultural attributes without compromising the integrity of the structure; and
- Three case studies which illustrate the variation in the building type and schemes undertaken in Britain. (The Riverside Project in Leeds; Buckingham Court Development in York; and Riverside Mews in Thirsk.)

5.
TITRE : Le Recyclage de bâtiments industriels à des fins résidentielles au Québec
AUTEUR : Josée Bérubé
ADRESSE BIBLIOGRAPHIQUE: Rapport de stage (Maîtrise en urbanisme) - Université de Montréal, 1986 (Programme de bourses d'études)

Ce projet de recherche se renseigne sur:

1. Les types de bâtiments industriels qui conviennent au recyclage à des fins résidentielles;

2. Les connaissances requises avant que ne soit entrepris de tels projets; et

3. Les causes principales du retard accusé par le Québec concernant la pratique du recyclage de bâtiments industriels.

L'auteur conclut que peu de secteurs sont propices au recyclage. Seulement les bâtiments industriels du secteur manufacturier, quelques types des secteurs de l'industrie chimique et des services d'utilité conviennent au recyclage. Quant aux facteurs qui ont concouru au retard du Québec dans la pratique du recyclage, l'auteur cite le financement, la fiscalité, et la réglementation du bâtiment.

CHILDREN / ENFANTS

6.
TITRE : Espace domestique et conduites parentales: étude écologique
AUTEUR : Réjean Tessier
ADRESSE
BIBLIOGRAPHIQUE: Ottawa: SCHL, 1986 (Programme de recherche extérieure)

Inspirée du cadre théorique de l'écologie sociale qui met en relation comportements et environnements, cette étude s'intéresse aux liens entre les conduites parentales et l'organisation de l'espace résidentiel. L'hypothèse sous-jacente est que le taux de satisfaction éprouvé par les gens à l'égard de leur logement est directement relié à l'émission de certaines conduites parentales et contribue significativement à en expliquer les variations.

Cent quatre-vingt-huit familles ont participé à l'étude, soit les deux parents de 153 familles biparentales et 35 parents (dont 33 femmes) de familles monoparentales. Les conduites parentales mesurées sont: la coercition, l'induction et le support, conduites définies en fonction de la place laissée à l'enfant dans la résolution de conflits parents-enfants.

L'hypothèse principale n'est pas confirmée - la satisfaction que les parents disent éprouver vis-à-vis leur

logement n'ajoute pas aux connaissances que l'on a déjà des conduites parentales.

7.
TITLE : High-Rise of Neighbourhoods : A Prototype for High-Rise Family Living
AUTHOR : David R. Harper
IMPRINT: Master's Degree Project (Master of Environmental Design (Architecture)) - University of Calgary, 1986.

This project addresses the way in which an acceptable home environment can be provided for children in high-rise building forms. Its primary objectives are:

1. To identify important characteristics of children's play and cognitive development which bear on the design of the child's residential environment;
2. To determine the environmental variables that support and enhance behaviour which minimizes unnecessary internal and external family conflict and stress in the high-rise home environment; and
3. To develop a prototypical family high-rise housing form that reflects existing housing construction technology.

CITY PLANNING AND HUMAN SETTLEMENTS / URBANISME ET ÉTABLISSEMENTS HUMAINS

8.
TITLE : Canada, Country Discussion Paper, Revitalizing Urban Areas : Briefing Paper
AUTHOR : Len Gertler Associates Ltd. for CMHC and OECD Group on Urban Affairs, Ministerial Meeting, Paris, Oct. 16-17, 1986
IMPRINT: Ottawa : CMHC, 1986

This paper reviews conditions, trends, and policies in four policy areas: urban economic development; urban service delivery; urban environmental improvement; and infrastructure provision. Each area is examined in the Canadian context as well as in the OECD context. Government policies are outlined and improvements or alternatives are suggested for future policy planning.

The overriding issue is the increasing demand by municipalities for greater autonomy in formulating economic and environmental policy, and ensuring adequate provision of services and infrastructure.

Senior governments are responding to demand for increased scope in economic matters and control over delivery of services, but are less responsive to environmental and infrastructure needs. The author recommends a consensual approach to urban revitalization on the part of the provincial and federal governments.

9.
TITRE : La Coexistence de compétences fédérales et provinciales dans le domaine du développement urbain
AUTEUR : Jacques Gosselin
ADRESSE BIBLIOGRAPHIQUE: Thèse (L.L.M.) - Université Laval, 1987 (Programme de bourses d'études)

L'objectif de cette thèse est de saisir comment s'amalgame et se justifie en regarde de la Loi constitutionnelle de 1867, l'action des différents ordres de gouvernement sur la planification et le développement urbains.

L'analyse illustre que si théoriquement les autorités provinciales détiennent les moyens nécessaires pour voir à l'aménagement et au développement des agglomérations urbaines situées sur le territoire, le gouvernement fédéral dispose, en vertu de la constitution et l'interprétation qu'en ont donné les tribunaux, des compétences sectorielles dont les incidences sont potentiellement déterminantes au plan du développement urbain. Ces contraintes ont imposé aux deux niveaux de gouvernement une coexistence forcée.

Un meilleur encadrement de l'exercice de certains pouvoirs fédéraux paraît nécessaire à l'instauration d'un véritable fédéralisme de coopération afin que les provinces puissent chacune à leur manière incarner dans le paysage urbain les caractéristiques propres de leur société.

10.
TITLE : Form and Function in a Holistic Framework for Urban Planning and Design
AUTHOR : Charles W. Lanktree
IMPRINT: Thesis (Master of Urban and Rural Planning) - Technical University of Nova Scotia, 1986 (Scholarship Program)

This thesis examines the historical origins and the theoretical foundations of functionalism and formalism in their present context of North American planning practice. It also explores the potential within these approaches of an integrative formula or common ground as the basis for a holistic framework.

Such a comprehensive and holistic planning framework is seen as having profound implications for the process and practice of urban planning and design. The use of formalist and normative information intrinsic to such an approach would both require and facilitate the inclusion of the public directly in the planning process. The overt consideration of formalist concerns would also require the inclusion of design staff within the planning authority.

11.
TITLE : The North American Suburb : A Reconsideration
AUTHOR : James T. Saywell
IMPRINT: Thesis (Master of Architecture) - Princeton University, 1987
(Scholarship Program)

This paper traces the history of the North American suburb from its explicit origin in England and the early Garden-City movement and its implicit origins in the idea of the Roman and Renaissance villa. Its primary objective is to formulate reasonable guidelines for the future development and transformation of the suburb, given its extensive proliferation in the United States and Canada.

The author concludes that the suburb will survive as a viable alternative to urban centres only if treated as a series of small urban quarters of reasonable population. Moreover, these quarters must attempt to fully integrate employment, and cultural and social institutions with their residential base.

12.
TITLE : Silken Iron : Transforming the Industrial City
AUTHOR : Miltos Catomeris
IMPRINT: Thesis (Master of Architecture) - Harvard University, 1986
(Scholarship Program)

The purpose of this thesis is to seek methods of restoring the credibility of poetic imagination to urban design. The proposed site for investigation is a disused industrial precinct on the western edge of Toronto's railroad terminal. The author uses surrealist techniques (photographic collages and unorthodox juxtapositions) to reveal the secret, hidden life of the discarded city.

13.
TITLE : Urban Design Requirements, B.C. Place
AUTHOR : Roger Kemble
IMPRINT: Thesis (M.A.) - University of British Columbia, 1987 (Scholarship Program)

A new set of urban design requirements is proposed to replace the current urban design guidelines for the B.C. Place site in Vancouver, British Columbia. The site was chosen because it is free of most of the typical impediments that constrain urban planning in more congested areas of the city.

Six urban design requirements are set out to provide as much freedom of expression to the design professions as possible. They are: interim land use, site development, physical form and design, environment, occupancy, and movement. Pivotal in the composition of the urban design requirements is an instrument called the Orthodox Surface Modulator.

The Orthodox Surface Modulator, as it is applied, describes the volumetric forms of building envelopes and the public urban spaces between buildings. It describes buildings and spaces to enhance public amenity. It may, under specific environmental circumstances, mitigate undesirable site conditions by describing building envelopes as buffer buildings, shielding passive urban space from noise and distractions.

CONCRETE CORROSION / BÉTON — DOMMAGE PAR LA CORROSION

14.
TITLE : Deterioration of Parking Structures : Extent, Causes and Repair Considerations
AUTHOR : Suter Keller Inc. for the Research Division, CMHC
IMPRINT: Ottawa : CMHC, 1986

This report presents an overview of the most important aspects of corrosion-induced parking structure deterioration resulting from repeated exposure of roadway deicing salts and moisture. An assessment of repair and maintenance options is provided for multi-story, cast-in-place reinforced concrete underground parking garages, which typically require comprehensive repair schemes to correct deficiencies.

The report concludes that variables such as garage configuration, structural details, functional details, financing aspects, and lack of long-term performance data on barrier systems make it difficult to establish specific cost-of-repair principles. Regular ongoing maintenance programs are found to be cost-effective through reduced damage and minimized lost revenue. Barrier system patching, functioning drains, and washing down of salt contaminated floor surfaces are important factors in the prevention of premature deterioration.

15.
TITLE : Determine Potential of Carbonation of Concrete in Canada : State-Of-The-Art Literature Review
AUTHOR : John A. Bickley Associates Ltd. for the Research Division, Policy Development and Research Sector, CMHC
IMPRINT: Ottawa : CMHC, 1987

The purpose of this literature review is to assess the potential for the deterioration of Canadian structures due to the carbonation of concrete.

Analysis of the literature indicates that all concrete is subject to carbonation. The rate and extent to which it develops is primarily a function of the climate and the environment to which the concrete is exposed. This is true whether the concrete is made with or without the incorporation of supplementary cementitious materials.

The findings also suggest that carbonation of concrete is occurring in balconies and pre-cast concrete facades of Canadian buildings. A testing program is proposed to determine whether carbonation has reached a phase at which significant remedial action is justified.

CONDOMINIUMS / COPROPRIÉTÉS

16.
TITRE : Analyse du marché de la copropriété divise, région métropolitaine de Québec
AUTEUR : Pierre Bélanger et Alain Lapointe pour la SCHL
ADRESSE
BIBLIOGRAPHIQUE: Ottawa : SCHL, 1984

L'objectif premier de cette analyse est d'explorer le marché de la copropriété dans la région métropolitaine de Québec et ce, dans la perspective d'une meilleure compréhension des conditions qui ont présidé à son développement jusqu'à ce jour et des secteurs susceptibles d'influencer son évolution future.

En second lieu, dans la mesure où le condominium puise le gros de sa clientèle parmi les ménages "existants", cette étude vise à situer les conditions de concurrence entre les diverses formes d'habitat ou types de logement. Ladite interrelation se devrait de plus d'être raffinée pour prendre en compte les différentes gammes de prix et les divers types de condominiums, moyennant une attention particulière pour celui à prix moyen (i.e. de 50 à 90 000$).

17.
TITRE : Restauration résidentielle et copropriété au centre-ville de Montréal : rapport final
AUTEUR : Marc H. Choko et Francine Dansereau pour la SCHL
ADRESSE BIBLIOGRAPHIQUE: Québec, Qué. : Institut national de la recherche scientifique, INRS urbanisation, 1986.

Cette étude constitue une suite et un complément à l'étude de LARSI (1985), "Impact de la restauration dans les quartiers centraux de Montréal".

L'investigation est centrée sur des logements en copropriété, datant d'avant-guerre, rénovés avec permis, pour un minimum de 5 000 $ de travaux, entre 1982 et 1985. Elle vise à dégager une compréhension plus approfondie du passage de logements locatifs anciens au domaine de la copropriété divise ou indivise à l'occasion de leur réhabilitation.

Les résultats indiquent que la copropriété restaurée représente une solution de logement intérmediaire, valable à moyen terme pour les jeunes ménages aux revenus moyens et une solution de logement à long terme pour les ménages de 40 ans et plus. L'emprise grandissante des ménages clients de la copropriété restaurée, entraîne, cependant, l'exclusion accéléree des ménages aux revenus inférieurs et des locataires vulnérables.

COOPERATIVE & NON-PROFIT HOUSING / LOGEMENT SANS BUT LUCRATIF ET COOPÉRATIVES

18.
TITLE : An Examination of Municipal Non-Profit Housing Corporations in Canada with Performance Evaluations of the Toronto, Ottawa and Winnipeg Housing Corporations
AUTHOR : Glen Howard Radewich
IMPRINT: Thesis (Master of City Planning) - University of Manitoba, 1986
(Scholarship Program)

Performance evaluations were conducted on municipal non-profit housing corporations in Toronto, Ottawa and Winnipeg to ascertain whether Section 56.1 program objectives were being met. All three corporations achieved moderate success in accommodating needy households and in increasing the affordable rental housing stock in spite of program constraints, inadequate funding, and a shortage of inner city development sites.

The study recommends that the Federal government continue the Section 56.1 program, make improvements to it, and provide municipal non-profit housing corporations with political and financial support.

19.
TITLE : Illustrative Indexed Mortgages Simulations
AUTHOR : Sobeco Group Inc. for Policy Development and Research Sector, CMHC
IMPRINT: Ottawa : CMHC, Policy Development and Research Sector, 1986.

The report provides evidence as to the feasibility of indexed mortgages for non-profit housing cooperatives. It compares the cost of the supply assistance under different combinations of circumstances for conventional mortgages and for Price Level Adjusted Mortgages (PLAM). The calculations are based on data that reproduce the random fluctuations of real life situations. No assumptions are necessary as to the level of taxes, operating costs or maintenance expenses of the units since they are not modified by differences in the mortgage plan.

A working hypothesis is that, as a group, the cooperatives will support a pooling arrangement to buffer individual fluctuations and limit the subsidy required to enable them to meet market rents. Such a pooling arrangement is also expected to reduce the risk of default. The study provides estimates of the cost of the pooling arrangements and of its cash flow characteristics as well as comparison of exposures to the risk of default under the different mortgage financing plans.

20.
TITRE : Rapport du stage à la Société d'habitation du Québec
AUTEUR : Claude Panneton
ADRESSE
BIBLIOGRAPHIQUE: Montréal, Qué. : Institut d'urbanisme, Université de Montréal, 1986 (Programme de bourses d'études)

Ce rapport de stage est divisé en trois parties distinctes. La première partie tente l'esquisse d'une synthèse de la formule coopérative dans le domaine de l'habitation. Elle se situe tant au niveau des implications financières de la formule que des programmes gouvernementaux qui ont largement contribué à son développement. La deuxième partie se veut une description opérationnelle du travail qui a été réalisé dans le cadre du stage. Elle présente une étape de la conception d'un programme en matière de logements. La troisième partie porte sur le stage en milieu de travail comme une pratique d'urbanisme inscrit dans un milieu social déterminé. Elle prend forme autour d'une critique des conditions dans lesquelles s'inscrivent les mécanismes d'allocation du logement coopératif.

21.
TITLE : A Report of the Atlantic House Plans Survey and Selection Review : A Review of User Preferences in Non-Profit Projects in Rural Locations in the Atlantic Provinces
AUTHOR : Sharon Booker and Access Housing Services Association for CMHC
IMPRINT: Ottawa : CMHC, 1983, c.1986

The first objective of the study was to develop an Atlantic House Plans Survey and Selection Guide for potential users of C.M.H.C. social housing programs to assist them in the assessment and selection of plans available in Atlantic Canada. Design criteria pertinent to modest housing in small communities and cities of the Atlantic Region were formulated through a review of current literature and discussions with local resource groups, housing officials and project users. These criteria included circulation; layout and lifestyle; flexibility; harmony with traditional Atlantic architecture; construction; siting; and energy efficiency.

Social Housing Projects throughout Atlantic Canada were then examined and assessed, using these design criteria. To help ensure program-oriented results the field study placed emphasis on newly constructed projects under C.M.H.C.'s non-profit rental and non-profit co-operative housing programs.

A second objective was to use the results of the field study to make observations and recommendations to C.M.H.C. on various aspects of the design of housing and the ways in which C.M.H.C.

could improve the access of groups to suitable and affordable house plans.

CRIME PREVENTION / CRIMINALITÉ -- PRÉVENTION

22.
TITLE : Evaluation of Horizontal Sliding Door Assemblies for Resistance to Forced Entry
AUTHOR : René Lecours and Armand Patenaude, Air-Ins Inc.
IMPRINT: Ottawa : CMHC, 1986, 13 p.

This report examines the performance of sliding patio doors with respect to forced entry and discusses the testing methods set in standard ASTM F-842-83. A representative sampling of Canadian patio doors framed with wood, vinyl, and aluminum and incorporating fixed as well as sliding panels were tested.

The study concludes that ASTM F-842-83 is adequate for Canadian use with few additions and/or modifications. It also recommends that manufacturers supply installation instructions for their units.

23.
TITLE : Evaluation of Horizontal Sliding Door Assemblies for Resistance to Forced Entry
AUTHOR : René Lecours and Armand Patenaude, Air-Ins Inc. for CMHC
IMPRINT: Ottawa : CMHC, 1986, 56 pages (various leaves)

The purpose of this report was to assess the performance of four different horizontal sliding patio doors with respect to forced entry when tested in accordance with ASTM F-842-83 "Standard Test Methods for Measurement of Forced Entry Resistance of Horizontal Sliding Door Assemblies". The project also examined the ability of modified security devices such as safety bars, slide bolts, and other locking mechanisms to frustrate forced entry.

The authors concluded that:

1. With few additions and/or modifications, ASTM F-842-83 is adequate for Canadian use.

2. The addition of a low cost retrofit security device/lock improved resistance to forced entry.

3. Manufacturers should supply installation instructions for their units.

24.
TITLE : Patio Doors and Security Devices/Locks : Literature Review
AUTHOR : René Lecours and Armand Patenaude, Air-Ins Inc.
IMPRINT: Ville St-Laurent, Que. : Air-Ins Inc., 1986

The main types of sliding patio doors which are sold to the Canadian residential market are identified in this report. A summary of the advantages and disadvantages of various security devices for patio doors as well as a brief survey of retrofit security devices/locks are also included.

ELDERLY / PERSONNES ÂGÉES

25.
TITLE : Community Based Housing Options for the Elderly
AUTHOR : Alexa Brewler
IMPRINT: Research Project (M.B.A.) - University of Ottawa, 1987 (Scholarship Program)

The primary objective of this paper is to outline the main issues involved in developing a range of community based housing alternatives for the elderly. There are two basic premises underlying the arguments and proposals in the paper. First, maintaining the elderly in their homes and within their community is the preferred alternative to institutionalization whenever possible. Secondly, the present rate of institutional placement is too high and is symptomatic of a lack of existing community based support service and shelter alternatives designed to help the elderly remain in independent living situations.

26.
TITLE : The Dwelling as a Node of Daily Activity Among Non-Institutionalized Retired Men
AUTHOR : James Bruce Prior
IMPRINT: Thesis (Ph.D.) - Simon Fraser University, 1986 (Scholarship Program)

The thesis focuses on the ordinary experience of retired men who live in private dwellings. The fundamental hypothesis is that the activity patterns of this population may be differentiated more by characteristics of their housing than by traditional sociometric variables other than age.

A telephone survey was conducted among a random sample of 91 retired men in the Vancouver area. They were asked to give a total one-day-recall 24-hour time and location budget, as well as information on housing history, current dwelling characteristics, and household demographic and socio-economic characteristics.

The principal findings are:

1. Ownership tenure and single detached or mobile home residency significantly correlate with activities which respondents classified as 'work' rather than 'leisure' and with activities requiring relatively vigorous muscular motility.

2. The number of rooms in the dwelling and the number of rooms per person both correlate positively with muscular motility; the number of rooms correlates inversely with respondent age and with leisure activities.

3. Age of respondents correlates negatively with muscular motility.

4. Higher socio-economic status correlates with outdoor activities. This is the only finding which directly contradicts the fundamental hypothesis.

27.
TITLE : Granny Flats : A Housing Option for the Elderly
AUTHOR : Susan Corke ... et al.
SERIES : Institute of Urban Studies, Report No. 13
IMPRINT: Winnipeg, Man. : Institute of Urban Studies, University of Winnipeg, 1987

Granny flats were the subject of a workshop offered at the Canadian Urban Studies Conference, held at the University of Winnipeg, August 1985. Susan Corke, Research Officer with the Ontario Ministry of Municipal Affairs and Housing, provided the provincial government's perspective on granny flats, while Gregory Romanick of the City of Waterloo's Planning Department discussed municipal mechanisms for the development of granny flats. Michael Lazarowich of the School of Urban and Regional Planning, University of Waterloo has been assessing Ontario's granny flat demonstration project to determine user need and satisfaction, and shared his findings. Joan Simon of the Department of Consumer Studies, University of Guelph, presented the prototype granny flat unit which she designed. This report is a collection of the papers presented at the workshop.

28.
TITLE : Homesharing for the Elderly : Towards a Community-Based Housing Program
AUTHOR : James W. McEwan
IMPRINT: Term Paper (Public Administration) - Carleton University, 1986 (Scholarship Program)

This paper examines the concept of homesharing. It's primary objectives are:

1. To describe the homesharing model and its relationship to other housing programs;

2. To explain the main stages of implementation of homesharing programs - program strategy, incremental program design, and operational adjustment; and

3. To address the potential for expansion of the model.

Results indicate that the strengths of homesharing are its low cost, rapid start-up, sensitivity to local needs, and its inherent adaptability to changing needs. Its weaknesses are its limited impact, difficulty of administration, and its dependence on the capability of the program staff.

29.
TITLE : Housing Canada's Seniors
AUTHOR : Sylvia Goldblatt, Farley Cates and John Phillips
SERIES : Institute of Urban Studies, Report No. 14
IMPRINT: Winnipeg, Man. : Institute of Urban Studies, University of Winnipeg, 1986.

At the Canadian Urban Studies Conference held at the University of Winnipeg in August 1985, three specialists discussed housing and community planning options. Sylvia Goldblatt, Researcher with Canada Mortgage and Housing Corporation, reviewed the government housing programs currently available to Canadians. Other alternative programs were also presented. Farley Cates, Planning and Program Analyst with Manitoba Housing, discussed community development corporations as a delivery model for seniors' housing. John Phillips, an architect and planner with the Institute of Gerontology in Victoria, proposed a community planning process which would ensure better distribution and delivery of services to seniors. These three papers are presented in this report.

30.
TITRE : La Mobilité résidentielle à l'âge de la retraite dans la région urbaine de Québec
AUTEUR : René Kirouac
ADRESSE BIBLIOGRAPHIQUE: Thèse (Ph.D.) - Université Laval, 1986 (Programme de bourses d'études)

Cette thèse examine le phénomène de la mobilité à l'âge de la retraite et fournit des données sur les différents besoins à combler pour les personnes âgées relatifs à leur habitat et sur les façons dont celles-ci réalisent la mobilité selon les ressources qu'elles ont accumulées.

Les résultats démontrent que

- Les propriétaires de résidence unifamiliale ont tendance à vendre leur propriété pour habiter un appartement.
- De nombreux locataires deviennent propriétaires.
- Beaucoup d'anciens propriétaires et de locataires recherchent un édifice à logements de grande taille où l'on trouve de nombreux services internes et une plus grande sécurité.
- Les gens à l'âge de la retraite habitent des lieux de plus forte densité de population.

31.
TITLE : Participatory Planning of Housing for Older Persons : Two Televised Case Studies
AUTHOR : Cheryl Joyce Kathler
IMPRINT: Thesis (M.A.) - University of British Columbia, 1987 (Scholarship Program)

The underlying premise of this explorative study is that older persons should and must be involved at all levels of planning for seniors' retirement housing. The specific purpose of the thesis is to examine "collaborative planning" as a method of involving older persons in housing issues.

Two televised case studies (Retirement Housing Forum and Retirement Alternatives Workshop) were assessed for their usefulness in defining the housing needs and preferences of the elderly. The evaluation of the case studies revealed that collaborative planning did indeed take place. Within a broader context, the case studies also revealed that older persons and professionals alike are in a

"reactive" mode of thinking rather than being "proactive" or creative in what they visualize as seniors' housing options.

32.
TITLE : Patterns of Support : The Use of Support Services Among Senior Citizen Public Housing Tenants in Ontario
AUTHOR : Margaret A. Denton and Christine K. Davis, with the assistance of Brenda J. Nussey
IMPRINT: Toronto, Ont. : Ministry of Housing, 1986

The purpose of the study was to identify the extent to which senior citizens in public housing have difficulties with the activities of daily living and the kinds of supports they use -- informal assistance from family, friends and neighbours, and/or formal services from community agencies.

The study involved two separate surveys: the first was a face-to-face interview with 479 senior citizen public housing tenants; the second was a mailed survey to 153 service providers and agencies. Both surveys afforded higher than average response rates — 80.4% and 72.8% respectively. In total, 11 communities were selected for study.

No attempts have been made to interpret the findings nor to discuss the social implications of the findings. These tasks are left to the social policy planners of related government ministries and other interested agencies.

33.
TITLE : Perceptions and Motivation for the Use of Outdoor Facilities and Neighbourhood by Residents of Seniors' Apartments
AUTHOR : Mary Jane Lovering ; Vertechs Design Inc.
IMPRINT: Ottawa : CMHC, 1986 (External Research Program)

A survey of seniors residing in municipal and non-profit apartments in Southern Ontario was conducted to provide a broader picture of elderly persons' needs and preferences in regard to their existing outdoor environments.

There were several unexpected findings:

1. The respondents were much more active than the residents of nursing homes and homes for the aged.

2. Apartment residents were highly motivated and would go outdoors in good weather.

3. There was a clear preference for landscaped greenery on the grounds as well as for private spaces or more privacy in public outdoor areas.

34.
TITRE : La Personne âgée en milieu urbain
AUTEUR : Christiane Couture
ADRESSE
BIBLIOGRAPHIQUE: Mémoire (Maître en psychologie) - Université de Montréal, 1986 (Programme de bourses d'études)

Ce mémoire vise à identifier la relation entre la satisfaction face à la vie de la personne âgée, ses conditions environnementales, son lieu de contrôle, et sa perception de l'environnement. Des entrevues menées auprès de Montréalaises âgées, pauvres, malades, seules, et habitant un quartier défavorisé (la Petite Patrie) permettent de constater que les dames rencontrées ne sont pas satisfaites de leur vie.

L'analyse qualitative des propos de ces femmes met en évidence la peur et l'ambivalence qui teintent leur insatisfaction. L'analyse statistique montre que les conditions environnementales objectives ne sont pas reliées à la satisfaction de vie, mais que c'est plutôt la perception de certaines de ces variables qui varie en accord avec un bilan de vie positif.

35.
TITLE : Residential Environmental Satisfaction of Senior Citizens in Halifax, Nova Scotia
AUTHOR : Kelly A. O'Brien
IMPRINT: Master of Urban and Regional Planning. Kingston, Ont. : School of Urban and Regional Planning, Queen's University, 1986 (Scholarship Program)

This research was conducted to investigate the impact of residential environments on the quality of life of senior citizens in Halifax, Nova Scotia. Data from a 1984 Housing Needs Assessment survey was used to provide detailed information on Halifax seniors' perception of their residential environment.

Both housing and neighbourhood satisfaction were found to vary by tenure and residential district. An association was found for perceived quality of neighbourhood and satisfaction level. Correlates of low perceived quality and dissatisfaction were found most often for renters in the Peninsula North area. The author suggests that priority be given to improving the general upkeep and the development and delivery of home support services for renters in this area.

36.
TITLE : Residential Migration and Residential Mobility of Seniors Living in Harriston, Ontario
AUTHOR : Maryanne Gaile Bodig
IMPRINT: Thesis (M.A.) - University of Guelph, 1986 (Scholarship Program)

The purpose of this research is to examine the sequence of residential moves made by the rural, small-town elderly in Harriston, Ont. Results indicate that the majority of moves by the elderly occurred in a relatively restricted local area. They also show a sequence of moves being made in retirement involving a cumulative pattern of housing trade down from homeownership to tenancy arrangements. The primary factors which affect a change in the housing needs of the elderly are the death of a spouse, health problems, or difficulties in maintaining the home.

37.
TITLE : Toward a Better Understanding of the Potential for Improvement in the Planning Process : A Case Study in Capitalizing on the Relationships Between Megatrends and Planning Innovations
AUTHOR : Sian Elizabeth Phillips
IMPRINT: Thesis (Masters in Urban Planning) - McGill University, 1986 (Scholarship Program)

The primary objectives of this thesis are:

1. To go beyond the purely physical and technical aspects of planning and explore some facets of the planning process itself;
2. To show the potential usefulness of applying world views or megatrends to the planning world; and
3. To explain recent innovations in elderly housing options in light of these megatrends.

The author recommends that greater emphasis be placed on projective planning in response to the burgeoning elderly population's needs and desires, and less on prescriptive and reactive planning.

38.
TITLE : Vancouver Homesharers Society : Evaluation of a Housing Service : Final Report
AUTHOR : MacLaren Plansearch ; Patricia Baldwin Planning Consultants; Lavalin
IMPRINT: Ottawa : CMHC, 1986 (External Research Program)

The objective of this study is to evaluate the viability of the "Vancouver Homesharers Society" as a new housing service specifically geared to needs of senior citizens in the City of Vancouver.

The study reveals a Homesharing Society that has transformed the scope of its services from a housing referral service to a counselling and support service to its homesharing clients. Though the service has refined its services, the client base it serves is relatively small. The study concludes that the service has a legitimate but limited role in addressing seniors housing needs. The clientele are mainly elderly women.

ENERGY CONSERVATION / ÉNERGIE - CONSERVATION

39.
TITLE : Airtightness Testing Methods for Multi-Unit Housing
AUTHOR : J.A. Love
IMPRINT: Ottawa : CMHC, 1986 (External Research Program)

The airtightness of seven row houses was tested by two different methods: pressure equalization and Nylund's method. In the former method, party wall leakage (which accounts for 20 or 30% of the airflow through the envelope of a row house) is eliminated by reducing the inter-unit pressure differential. In Nylund's method, the indoor-outdoor pressure differentials in dwellings adjacent to the test dwelling are measured and the readings for that test dwelling are corrected by a formula incorporating these pressure differentials. The tests showed that Nylund's method provided relatively accurate results and is a practical alternative to the pressure equalization method.

40.
TITLE : CMHC 2 Market Assessment Report : Executive Summary
AUTHOR : Information Systems Group
IMPRINT: Ottawa : CMHC, 1986, c1987

The objective of this study was to assess the potential market for the CMHC 2 software package and develop a marketing strategy for distribution of the product. The study was done in two distinct phases. During the first phase, the focus was on understanding the product - its features, capabilities, attributes, competition - and the overall marketplace. The second phase then concentrated on predicting the sales over a three year horizon and on developing an overall scheme for introducing the product - also referred to as a market roll-out strategy.

41.
TITLE : CMHC 2 Market Rollout Strategy
AUTHOR : Information Systems Group
IMPRINT: Ottawa : CMHC, 1986, c1987

A Market Rollout Strategy and subsequent business case for that strategy was developed to estimate the relative level of success possible for the CMHC 2 product. It is presented from two points of view: CMHC and the Master Distributor.

The proposed strategy offers a four phase approach to allow for maximum product penetration in various target areas. Each phase has its own associated target market and related product offering. The strategy also provides cost estimates of the rollout, as well as sales projections to allow an overall financial viability check of the program. The four phases of the marketing strategy are:

Phase 1: Complete the CMHC2 standalone product;

Phase 2: Architect/Engineer Sales;

Phase 3: Lumber and Building Materials Distributor Approach; and

Phase 4: Heating/Cooling Equipment Manufacturer/Distributor Strategy.

42.
TITLE : Community Energy Profiling : A Case Study of Sidney Township
AUTHOR : Kenneth R. Tamminga
IMPRINT: Master of Urban and Regional Planning. Kingston, Ont. : School of Urban and Regional Planning, Queen's University, 1986 (Scholarship Program).

The objectives of this report are:

1. To identify the relationship between community energy management and municipal land use planning, and to ascertain the relevance of community energy profiling as a basis for municipal decision making;

2. By applying the technique of energy profiling, to obtain findings on energy consumption patterns in Sidney Township, and to begin to understand the possible interrelationships between planning (in a broad sense) and energy flows;

3. To evaluate the strengths and weaknesses of the most common technique of community energy profiling (the Lang and Armour method) through a direct and experiential case study; and

4. To forward insights and suggestions regarding this method which may be useful for similar municipalities.

43.
TITLE : Constraints to Energy Upgrading of the Existing Low-Rise Housing Stock : Summary Report
AUTHOR : Woods Gordon in association with Scanada Consultants Ltd. for the Research Division, Policy Development and Research Sector, CMHC
IMPRINT: Ottawa : CMHC, 1984

The energy upgrading (retrofit) market for low-rise housing was examined for market constraints. A series of interviews with manufacturers, distributors, contractors and government departments showed that there are several major barriers to more widespread adoption of energy upgrading measures. Chief among these were the fragmented nature of the "industry" (leading to vested interests, unco-ordinated marketing efforts, and retrofit being regarded as a side-line to their main business) and the lack of coherent unbiased information and advice for the homeowner.

However, there is a vast potential for financial and energy savings which could be tapped by encouraging retrofit as part of other work, and by providing the advice that is appropriate to owners of specific dwellings in specific locations within the wide ranges of both that are found in Canada.

44.
TITLE : Cross-Contamination and Intermittent Testing of Residential Air-to-Air Heat Exchangers
AUTHOR : William H. Patrick
IMPRINT: Thesis (Master of Engineering Science) — University of Western Ontario, 1986 (Scholarship Program)

This investigation studied the effects of cross-contamination on steady state efficiency and the intermittent performance of two residential Air-to-Air Heat Exchangers (ATAHE).

Results from these studies show that the cross-contamination involved within these heat exchangers may reduce the ventilation efficiency by approximately 10% in some instances. This reduces the actual thermal efficiency of the exchanger. A method for determining the influence of intermittent operation on the performance of a residential ATAHE was developed. A number of significant design parameters were discussed for intermittent operation of ATAHE's derived from the results of the transient tests. These parameters included mass flow rate, the mass of the unit and the ability of the unit to transfer energy into the fresh air flow from residual energy within the housing.

45.
TITLE : First Trials of Comprehensive Airtightening of Existing Houses
AUTHOR : R.E. Platts and Paul Skvor, Scanada Consultants Limited
IMPRINT: Ottawa : Scanada Consultants Limited, 1984

Using both polymeric emulsions and foam-in-place polyurethanes, in spray and injection applications, comprehensive sealing techniques have been devised to airtighten houses - including the plugging of generally overlooked hidden or "structural" leaks. First field trials on four early postwar houses and one older prewar house have been carried out successfully: airleakiness was reduced to a half or a third in all cases. (Neutral pressure plane behaviour suggested that only the below-grade component of leakage was broadly missed. That appears to be a surprisingly large component.) A first analysis of sealing costs and benefits was done, and hypothetical cost-benefit projections were then made regarding controlled ventilation with heat recovery. These encompassed both the usual air-to-air heat exchanger and the most promising technique (still under development) of heat pump heat recovery from the house's exhaust air. All findings are encouraging; further development and trials are recommended.

46.
TITLE : Log Walls Field Tests
AUTHOR : Scanada Consultants Ltd. for CMHC
IMPRINT: Ottawa : CMHC, 1986

This report reviews the results of an in situ testing using a guarded calorimeter test apparatus, commonly known as a mimic box, to determine the actual RSI values of solid log walls.

The field testing of the thermal resistance of log wall systems had three main objectives. These were:

1. To measure, for known inside/outside temperature conditions, the actual heat loss through several types of log walls and thence to determine their effective thermal resistance;

2. To compare the theoretical and actual thermal resistance values of log walls and, based on this comparison, recommend any

required modifications to the present RSI values assigned to log wall construction; and

3. To conduct similar measurements and comparisons for walls of standard frame construction in order to produce a baseline against which the performance of the log walls can be interpreted.

The report found that the RSI value of the in situ solid log walls were slightly under those that are presently attributed to solid log walls by CMHC.

47.
TITRE : Méthode de conception architecturale bioclimatique assistée par micro-ordinateur
AUTEUR : Lyse Gelinas
ADRESSE
BIBLIOGRAPHIQUE: Mémoire (Maître ès sciences appliquées) - Université de Montréal, 1986 (Programme de bourses d'études)

La comparaison des méthodes manuelles, graphiques, et informatiques d'analyse thermique permet de définir un devis de performance et une structure pour une méthode de conception bioclimatique assistée par micro-ordinateur. A partir du devis de performance, une grille de comparaison sert à analyser six logiciels: CALPAS3, CASAMO, CMHC-2, F-LOAD, HOTCAN, et SUNPAS.

À la suite d'une série de simulations d'une maison solaire passive et de l'analyse des logiciels, c'est CASAMO qui est retenu pour ses qualités combinées suivantes: facilité d'utilisation; rapidité d'analyse; variété des composants solaires passifs et des mesures de conservation d'énergie qu'il est possible de modéliser; et gestion des projets et structure modulaire qui permet une évaluation par étape du rôle thermique des composants.

48.
TITLE : Performance Evaluation of the Dynamic Wall House
AUTHOR : J. Timusk, A.L. Seskus and M. Lio, Centre for Building Science, University of Toronto for Project Implementation Division, Canada Mortgage and Housing Corporation
IMPRINT: Ottawa : CMHC, 1987

This paper reports the findings of a demonstration project called the University of Toronto Dynamic Wall House. This project demonstrates the concept and operation of a building ventilated by dynamic insulation during several winter months in Central Ontario.

Results obtained from the monitoring of temperatures, pressures, and moisture levels have shown that this dynamic wall house performed well in a cold and windy environment. Outside air needed for ventilation was induced to infiltrate slowly and uniformally across the surface of the building. The flow of incoming ventilation air was significantly prewarmed resulting in no cold drafts or cold wall surfaces. Wind had little effect on the infiltrating flow. The house also showed a drying of the exterior walls during the monitoring period. Computer simulation of seasonal heating requirements indicate that there would be energy savings for a dynamic wall house when compared to a similar conventional house.

49.
TITLE : Polyurethane Foam Panel Analysis
AUTHOR : K.N. Tandon, Manitoba Research Council, Industrial Technology Centre, Metallurgy/ Material Science Division, for CMHC
IMPRINT: Ottawa : CMHC, 1986

This study was undertaken to determine the thermal and mechanical performance of polyurethane rigid cell foam panels faced with steel sheet.

Physical testing to determine the properties of two old, three artificially aged, and three new panels was conducted at the Technology Centre's Physical Testing Laboratory. The properties established in accordance with accepted test methods were: the foam core density, tensile strength and moisture content, and the adhesion strength of the foam core to the metal facing. Thermal resistance and freon content testing was subcontracted to the National Research Council's Institute for Research in Construction and Analytical Chemistry Laboratories.

The results from the testing program indicated that:

a) The tensile adhesion strength between the foam core and the sheet metal facing is highly variable within each panel and differed significantly between panels.

b) The tensile adhesion strength between the foam core and sheet metal facing is sensitive to artificial aging (thermal cycling).

c) Although the thermal resistance of the two older panels along exposed edges was found to be lower than that at the interior of the panels, no significant difference in Freon-11 content was witnessed between these locations.

No relationship was established between the age of the panels or manufacturing process and the mechanical properties of the panels.

ENVIRONMENTAL POLLUTION AND CONTROL / POLLUTION DE L'ENVIRONNEMENT ET SON CONTRÔLE

50.
TITLE : Chimney Safety Tests Users' Manual : Procedures for Determining the Safety of Residential Chimneys
AUTHOR : Sheltair Scientific Ltd. and Scanada-Sheltair Consortium Inc. for the Research Division, CMHC
IMPRINT: Ottawa : CMHC, 1987

This manual describes a series of procedures for testing the performance of residential chimney systems. The tests are applicable to all standard houses with conventional heating and ventilation systems - gas, oil, or wood and houses equipped with any variety of exhaust equipment or two-way fan systems.

Each of the 5 tests is described, in detail, in the manual which provides step-by-step instructions on how to perform each test. The manual also provides special checklists and report forms to facilitate the delivery of each test.

51.
TITLE : Development and Evaluation of Soil Gas Sampling Techniques : Final Report
AUTHOR : Ontario Research Foundation and Gartner Lee Associates Ltd. for the Research Division, Policy Development and Research Sector, Canada Mortgage and Housing Corporation
IMPRINT: Ottawa : CMHC, 1987

This study was prompted by previous research indicating a potential for significant soil gas entry into basements and crawl spaces of residential buildings. Two types of soil gas sampling devices were fabricated and tested. To measure soil gas in-situ, soil probes manufactured with thin wall aluminum tube of 53.5 mm diameter and of varying lengths were installed in the soil surrounding the test homes. To measure pollutant levels at basement soil gas entry points, rigid accumulator containers were sealed to floor and wall cracks.

The low level of soil gas constituents found at the three test homes made evaluation of the sampling techniques and interpretation of the results difficult. The tests for organic compounds, pesticides, and fungal growth were at or below the analytical detection limits. However, radon levels were consistently measurable. The ratio of average indoor radon concentration to average entry point radon concentration can be used to determine the fraction of whole house air infiltration which is soil gas entry. For the three homes tested, the soil gas entry was 1.1 to 3.8% of the entire home air infiltration.

52.
TITLE : Evaluation of the Potential for Fuel-Fired Appliance Backdraft in Ten Houses Equipped with Whole-House Exhaust Fans
AUTHOR : Buchan, Lawton, Parent Ltd.
IMPRINT: Ottawa : CMHC, 1986

This report presents the findings of a project designed to evaluate the backdraft potential of fuel-fired appliances caused by house exhaust fan systems in ten houses in various locations in Nova Scotia.

The houses studied in the project were evaluated using several tests. A fan depressurization test (CGSB Standard CAN 2 149.10 M86) was used to evaluate the air leakage characteristics of the building envelope. The CMHC Combustion Safety Backdraft Checklist (December 1984 version) was used to estimate the depressurization levels in the vicinity of the combustion devices in the homes, as well as determining whether or not combustion devices were, indeed, backdrafted by installed fan power in the home. The depressurization levels obtained were compared to CMHC's house depressurization limits (HDL's) to formulate conclusions on the combustion systems in the homes. With the depressurization fan door the house was also systematically depressurized to actually cause a backdraft to occur in the combustion systems. In this way, it was possible to comment on the house depressurization limits for various combustion devices.

The findings indicate that the operation of the whole-house exhaust fan in conjunction with one other fan could cause backdrafting of the woodstove. The installation of a make-up air inlet to limit house pressures or interlocking the wiring of the fans, such that only one fan can be operated at a time would be more foolproof solutions.

53.
TITLE : The Influence of Flue Dampers on the Venting Performance of Flues
AUTHOR : John C. Haysom and Robin P. Sinha, Scanada Consultants Limited and Scanada Sheltair Consortium Inc. for CMHC
IMPRINT: Ottawa : CMHC, 1987

An investigation of the effect of flue dampers on the performance of venting systems serving combustion appliances was conducted. It was found that the principal effect of a flue damper is to restrict the chimney's access to the pilot light energy, and the heat retained in the furnace fabric. This can make the chimney less resistant to backdrafting during standby and can prolong the duration of spillage at start-up. The magnitude of these effects depends on a number of factors:

1. There is little effect on interior chimneys since they do not require external sources of heat to maintain high standby equilibrium temperatures.
2. The effect is greatest on light exterior chimneys since they experience high heat loss and their retained heat is low.
3. The effect is amplified when chimneys are subject to long standby periods in cold weather, such as occur when thermostat setback is used.

54.
TITLE : The Influence of Flue Sharing on Venting Performance
AUTHOR : John C. Haysom and Michael C. Swinton, Scanada Consultants Limited and Scanada Sheltair Consortium Ltd. for CMHC
IMPRINT: Ottawa : CMHC, 1987

An investigation of the effect of the sharing of flues by furnaces and water heaters on the performance of venting systems serving natural gas appliances was conducted using the Flue Simulator model.

The results of this study indicate that the sharing of flues exacerbates venting problems when the conditions for proper venting are already adverse. It is important that both the furnace and the water heater vent connectors have "clean" flow areas with as few elbows and contractions as possible. The flow area of the venting system downstream of the furnace/water heater connection should also be as "clean" as possible. It was found that configurations in which the water heater vent connector is connected separately to the flue should be the least prone to combustion venting problems.

55.
TITLE : The Influence of Termination Configuration on the Flow Performance of Flues
AUTHOR : John C. Haysom and Michael Swinton, Scanada Consultants Limited and Scanada Sheltair Consortium Inc.
IMPRINT: Ottawa : CMHC, 1987

Wind tunnel tests were conducted on a number of common configurations of furnace and fireplace flue terminations (exits) to determine the horizontal and vertical wind pressure coefficients for each configuration for a range of wind attack angles and to determine the restriction to flue flow created by each configuration.

The results indicate the following:

For any given set of wind conditions, there are wide variations in the performance of various chimney caps, in terms of their likely effect on the combustion venting performance of the chimney.

In deciding to use a cap on a particular chimney and in choosing a particular cap to use, the wind conditions likely to prevail at the top of the chimney and the performance characteristics of the candidate caps should be taken into account.

56.
TITLE : Medium Efficiency Filtration : Improved Filters for Residential Forced Air Furnaces
AUTHOR : Oboe Engineering Ltd. for Project Implementation Division, Policy, Research and Program Sector, CMHC.
IMPRINT: Ottawa : CMHC, 1986

This report details the results of a field investigation undertaken to compare the mechanical and filtration properties in a residential furnace application, of eleven medium efficiency filters with respect to one standard low efficiency filter. The filtration properties investigated were the ability to remove dust and tobacco smoke from the airstream. The impact on airflow and external static pressure was also assessed.

Three forced air furnace airflow rates were selected for testing and the furnaces were retrofitted to accept the filters. Static pressure drops across the filters and the furnaces were measured. Airflow rates and heat exchanger temperatures were also recorded. Filter efficiency was measured using a particle counter.

It was found that the dust removal of most of the medium efficiency filters was significantly higher than the low efficiency filter. The efficiencies of tobacco smoke removal were low and only apparent under low air flowrates.

Preliminary sampling also showed there was not a significant amount of mould spores present in the housing environment to make an effective measurement across the filters.

57.
TITLE : Monitoring Combustion Gas Spillage Frequency and Duration in 20 Problem Prone Houses : Final Report
AUTHOR : Sheltair Scientific Ltd. for the Research Division, CMHC
IMPRINT: Ottawa : CMHC, 1987

A research project was carried out for the purpose of determining the number of combustion gas spillage events, and the total duration of spillage, in 20 houses where pressure-induced spillage was thought to be occurring. The project was a follow-up to an earlier CMHC research project (1985/86), which included a

Country-wide Survey of Residential Combustion Venting Failures carried out by the Scanada-Sheltair Consortium.

Houses were selected in 4 regions of the country, and included 15 gas heated houses and 5 oil heated. The counters mounted on gas-fired appliances relied on a thermistor to detect hot gas spillage from the dilution air inlets. The number of events, and total event duration, were recorded on battery-operated mechanical counters. Oil-fired detectors were similarly designed, but used conventional smoke alarms mounted above the barometric damper, instead of thermistors, for sensing spillage. Spillage events were monitored over an 80-day period of the 1986/87 heating season.

In general, this survey has confirmed the presence of significant spillage incidents amongst houses identified as "spillage" houses during the country-wide survey. If flue dampers had not prevented proper monitoring on two houses where spillage was observed to be a problem, fully 79 percent of the sample would have recorded problem spillage incidents.

58.
TITLE : The Performance of Sealed and Insulated Venting Systems in Combination with High Pressure Oil Burners
AUTHOR : Sebastian Moffatt, Sheltair Scientific Ltd. and Scanada-Sheltair Consortium Inc. for the Research Division, CMHC
IMPRINT: Ottawa : CMHC, 1987

Field tests and computer simulations of sealed and insulated venting systems, combined with high pressure oil burners, were order to determine the potential for avoiding condensation problems (corrosion, icing, drainage, and freeze/thaw damage) and combustion gas spillage problems, while improving the safety, durability, and energy efficiency of oil-fired heating and venting systems.

The Econotech venting system, promoted and tested by Esso Canada, was evaluated and found to greatly reduce potential for combustion gas spillage from house depressurization or from low draft at start up. No definitive conclusions were reached about the potential for condensation problems after installation of the Econotech venting system, due to inadequate information on dew point temperatures and drying times.

59.
TITLE : Residential Combustion Safety Checklists
AUTHOR : Sebastian Moffatt, Sheltair Scientific Ltd. for the Research Division, Policy Development and Research Sector, CMHC.
IMPRINT: Ottawa : CMHC, 1985

The Combustion Safety Checklists presented in this report follow two CMHC reports completed in 1983-84: a report by Hatch Associates on Hazardous Heating and Ventilating Conditions in Canadian Housing, and a report by Sheltair Scientific on the design and evaluation of a Residential Chimney Backdraft Checklist. This report attempts to respond to the growing hazard of chimney failures identified in the Hatch report, by expanding the scope and applicability of the original Chimney Backdraft Checklist. Its primary objective is to develop procedures for identifying and remedying problems with vented combustion heating appliances in Canadian housing.

The research included three principle tasks:

- The design of two checklists, one for tradesmen and another for householders;
- The field testing of both checklists on 20 houses in each of 5 regions across Canada; and,
- The application and evaluation of suitable remedial measures on houses with problems.

60.
TITLE : Residential Combustion Spillage Monitoring
AUTHOR : Buchan, Lawton, Parent Ltd. and SRO Engineering Ltd. for the Research Division, CMHC
IMPRINT: Ottawa : CMHC, 1987

Sixteen homes were continuously monitored to determine the frequency and duration of combustion product spillage from the furnaces and domestic hot water systems.

The methodology incorporated two basic elements. The first was to monitor the mechanical systems and door and window operation of the houses to determine the frequency and duration of spillage incidents, and the status of exhausting equipment and envelope openings during these incidents. The second element was air sampling to determine contaminant levels attributable to combustion product spillage from the appliances. Two sampling technologies were employed. Tube sampling methods were used for NO, NO_2, and (in oil-heated houses and a limited number of gas-heated houses) SO_2. As well, bag samples were collected for later analysis by gas chromatography for CO, CO_2, methane and non-methane hydrocarbons.

The study concludes that considering that the sample selection was limited to houses previously determined to have spillage occurrences, remarkably few had significant spillage incidents. Furthermore, while contaminant levels attributed to combustion product spillage were higher than ambient or average levels and in 'forced spillage' tests reached unacceptable levels, the contaminant levels from 'naturally occurring' spillage incidents were below Health and Welfare proposed guidelines.

61.
TITLE : Residential Combustion Venting Failure : A Systems Approach : Final Technical Report
AUTHOR : Scanada Sheltair Consortium for the Research Division, Policy Development and Research Sector, CMHC
IMPRINT: Ottawa : CMHC, 1987
14 volumes (13 final technical reports and Summary Report)

This project was designed to examine the problem of incomplete venting of combustion products from heating appliances. The work was subdivided into seven separate but closely coordinated sub projects.

Vol. 1: Project 1, Phase 1. Canada Wide Survey : Development and Testing

This report describes the development and evaluation of spillage detection techniques during a Canada-wide survey of combustion venting hazards. A wide range of devices were evaluated including CO detectors, smoke detectors, heat sensitive materials and various types of switches and counters.

For gas furnaces and water heaters, the most appropriate technology was found to be the use of heat sensitive dots mounted on a piece of heat resistant plastic and stuck to the top or bottom of the dilution air opening so as to intercept the flow of spillage gases. For oil furnaces, the greatest success was achieved with conventional ionization smoke alarms. Since budget limitations precluded the use of smoke detectors, heat sensitive dots were used. Fireplace spillage detectors could not rely on heat sensors because of the extreme temperature range. Therefore, smoke and CO detectors connected to a pulse counter were used to record fireplace spillage.

Vol. 2: Project 1, Phase 2. Canada-Wide Survey Results

The Canada-wide survey was conducted in 5 regions: British Columbia, Manitoba, Southern and Eastern Ontario, Quebec, and Prince Edward Island. Heat sensitive dot sensors were used on gas and oil-fired appliances and CO and smoke detectors were mounted on the mantles above the fireplace in 937 homes. 10% of the gas-heated houses had prolonged or unusual amounts of combustion gas spillage. Another 65% experienced short-term start-up spillage. 55% of the houses with oil furnaces experienced significant gas spillage. All houses with wood burning fireplaces experienced some spillage with an average of 1.25 spillage events per fire.

Vol. 3: Project 2. Modifications and Refinements to the Flue Simulator Model

The objective of this study was to improve the flue simulator computer model. Additional features added to the model were: the effect of wind on house depressurization; outdoor air intakes; flue pipe characteristics; shared flues; flue pipe draft inducers; potential for condensation in the flue; and thermostat control of furnace. A number of simulations were executed to test the model's new features. As well, a new preliminary model (WOODSIM) was produced to simulate wood burning in fireplaces and stoves.

Vol. 4: Project 3, Task 1. Refinements to the Chimney Safety Tests : Determining House Depressurization Limits

This brief report describes the progress made in determining House Depressurization Limits (HDL) as part of the refinement of chimney safety tests. A table of HDL's was prepared which identifies most types of appliances and chimney configurations. The minimum HDL is 4 Pascals and the maximum is 7 Pascals.

Vol. 5: Project 3, Task 2. Refinements to the Chimney Safety Tests : Remedial Measures for Houses with Pressure-Induced Spillage Problems : A Prototype Guide for Contractors and Tradesmen

This guide is meant for tradesmen and contractors who have identified pressure-induced spillage problems in houses with fuel-fired vented appliances. The guide outlines the most simple solutions to the problem and then describes, in detail, ten different remedial strategies.

Vol. 6: Project 4. Assessing the Impact of Combustion Gas Spillage on Indoor Air Quality

This project investigates the health and safety risks associated with venting failures. It examines current literature on indoor air pollution and identifies suitable monitoring technologies for detecting pollutants. Pilot tests on a series of houses in Vancouver provided extensive information on the indoor air quality during and following backdrafting spillage events. However, the investigation was hampered by the unavailability of suitable, portable electronic analyzers for use in the field.

Vol. 7: Project 5. Remedial Measures for Wood-Burning Fireplaces : A Fireplace Spillage Advisor

The objective of this research was to specify acceptable design parameters and optimum installation procedures for a warning device that can indicate to householders when spillage is occurring from their fireplaces. The best location for the spillage advisor was found to be on the front face of the mantle, slightly below the lip. Neither a smoke alarm nor a carbon monoxide alarm is adequate as a spillage advisor. Combining both detector technologies in the same alarm unit would be the preferred design objective.

Vol. 8: Project 5. Remedial Measures for Wood-Burning Fireplaces : Airtight Doors with Direct Air Supply

This report presents an evaluation of airtight doors and direct air supply in terms of their ability to remedy pressure induced spillage problems. The effect of airtight doors on the fireplace was to increase the House Depressurization Limit from 8 Pascals to 22 Pascals when a strong fire was burning. The possibility of increased fire hazard after installing airtight doors was also identified as a major concern.

Vol. 9: Project 5. Remedial Measures for Gas-Fired Appliances

Three remedial measures were evaluated for gas-fired appliances subject to pressure-induced spillage: the spillage advisor (alarm); the retrofit draft-inducing fan; and the draft-assisting chamber. Both the draft-inducing fan and the draft-assisted chamber were found to be effective.

Vol. 10: Project 5. Remedial Measures for Oil-Fired Appliances

Three remedial measures for oil-fired appliances were evaluated and were found to hold varying degrees of promise for near to mid-term commercialization. The measures evaluated were the solenoid delay valve, the draft inducing fan, and a comprehensive retrofit package consisting of a sealed insulated flue liner, a sealed flue pipe (with no barometric damper), and a high pressure burner.

Vol. 11: Project 5. Make-Up Air Supply Remedial Measures

A research project was conducted to investigate make-up air supply issues in the context of combustion venting problems. The results of the tests indicated that the provision of additional supply air is not likely to be effective if the supply air is introduced unaided through an envelope opening. It is only likely to be effective if a supply air fan is used with a capacity at least equal to the total capacity of all exhaust equipment it is attempting to counteract.

Vol. 12: Project 6. Case Studies of Houses with Combustion Gas Spillage Problems : A Follow-Up to the Canada-Wide Survey

The results of 20 problem-house investigations are described in this report. In all but one of the houses, chimney safety tests were able to establish a reason for spillage. Backdrafting due to house depressurization was implicated in 75% of the houses investigated. In several houses, spillage was related to extremely tight building envelopes; in others, the backdrafting was related to a powerful exhaust fan.

Health hazards from venting problems vary. Acute, short-term hazards are most likely related to occasional backdrafting in a relatively tight house. On the other hand, chronic health hazards are most likely related to continuous spillage.

Vol. 13: Project 7. Communications Strategy

This project outlines the various communications products which were developed during the course of the study: Flue Simulator Model, Chimney Safety Tests, and Manual, and Remedial Measures Guidelines. In addition, a follow-up communications strategy is proposed which outlines various approaches for transferring the results of the study to key target groups such as government agencies, consumers, manufacturers and tradespeople.

Vol. 14: Summary Report

This report summarizes and correlates the results of the seven research projects that Scanada Sheltair Consortium undertook for its study on Residential Combustion Venting Failure : A Systems Approach.

62.
TITLE : Residential Combustion Venting Failures - A Systems Approach : A Survey of Fireplace Spillage Incidents in Twenty-Four Houses : Final Report
AUTHOR : Sheltair Scientific Ltd. for the Research Division, CMHC
IMPRINT: Ottawa : CMHC, 1987

This report surveyed the frequency and duration of combustion gas spillage from conventional fireplaces in 24 houses located across Canada.

Fireplace spillage detectors were hung on the face of the mantle above the centre of each fireplace. An analysis of the data collected by the spillage detectors indicated that spillage is a frequent event for conventional fireplaces. The average number of CO spillage events was much smaller than for smoke spillage.

However, the duration of CO spillage was much longer than for smoke, with an average spill of 2.7 minutes.

No specific features of the fireplaces or houses appear to correlate with a propensity toward spillage events, but it is suspected that chimney design and fireplace operation are significant variables.

63.
TITLE : Studies on Indoor Air Quality in Canadian Homes
AUTHOR : Bruce M. Small and Associates Ltd. for the Research Division, CMHC
IMPRINT: Ottawa : CMHC, 1985, 3 vol.

Volume 1: Legislation, Regulations and Standards

Volume one deals with legislation, regulations, and standards in Canada which are relevant to the study of indoor air quality in Canadian housing. Its purpose is to provide background information for discussions between Canada Mortgage and Housing Corporation and other interested parties, regarding the best means for researching and addressing potential problems of indoor air quality in Canadian housing.

Volume 2: Research and Information Base

This volume describes the research and information base in Canada for addressing problems relating to indoor air quality in Canadian housing. Its purpose is to provide a reference document for government and building industry officials, research funding agencies, air quality and building science researchers, and other interested persons throughout Canada.

Volume 3: Exploring Low-Pollution Design

This report explores potential indoor air quality problems in Canada and ways of designing homes to avoid such problems. Design suggestions are offered for discussion among government agencies, researchers, the building industry, and the housing consumer.

64.
TITLE : Study of Flue Parameters Affecting Backdrafting and Spillage
AUTHOR : Scanada Consultants Limited, Scanada Sheltair Consortium Inc., and G.K. Yuill and Associates Ltd.
IMPRINT: Ottawa : CMHC, 1987

The objective of this project was to use computer simulation to investigate the performance of gas furnace flues as a function of flue design parameters. The performance of the flue during standby and during start-up was analyzed.

The study of the draft during standby led to the conclusion that analysis of the transient behaviour of the flue is not useful. Therefore, a simple computer program to study draft after the flue has cooled to a steady-state standby condition was developed. The study confirmed that interior flues will resist backdrafting at standby much better than exterior flues.

The study of start-up spillage came to the following conclusions:

1. The most rigorous test of a system's performance at start-up follows a cool down to thermal equilibrium. Flues should be designed to avoid unacceptable spillage under these circumstances.
2. Flue thermal inertia has no significant effect on duration of start-up spillage following thermal equilibrium at standby.
3. Decreasing flue area below the level commensurate with the expected flow of the flue gases substantially increases the duration of start-up spillage, but increasing it beyond this level has little effect.

HANDICAPPED / HANDICAPÉS

65.
TITRE : L'Adaptation d'une maison aux besoins d'handicapés
AUTEUR : Bob Topping pour Le Barrier Free Design Centre de l'Association canadienne de la dystrophie musculaire
ADRESSE BIBLIOGRAPHIQUE: Ottawa : Direction générale de l'analyse des politiques de la recherche et de la liaison, Bureau de la coordination des politiques, Consommation et Corporations Canada; Conseil canadien d'habitation, 1985

Ce manuel décrit l'expérience vécue par les Osborne pendant la rénovation de leur maison. Leur famille se compose de seize enfants, dont quinze ont été adoptés. Beaucoup d'entré eux sont handicapés et ont besoin d'un environnement adapté pour fonctionner. Ils appartiennent à diverses tranches d'âges et sont atteints de handicaps divers dont certains sont courants. Les Osborne ont fait d'importants travaux de rénovation pour améliorer l'accessibilité de leur maison. Avant de se lancer dans les transformations décrites dans ce manuel, ils avaient déjà réalisé des travaux d'agrandissement à deux reprises, et l'attitude réaliste qu'ils adoptent vis-à-vis de leurs enfants handicapés fait de leur projet un exemple édifiant.

Also available in English.

HEATING / CHAUFFAGE

66.

TITRE : Chauffage solaire passif : analyse, en site réel, de la résistance et des bilans thermiques d'un bloc transparent à cavités inclinées

AUTEUR : Myriam Blais

ADRESSE BIBLIOGRAPHIQUE: Thèse (Maître en architecture) - Université Laval, 1987 (Programme de bourses d'études)

Cette recherche a pour objectifs généraux:

- D'analyser le comportement en résistance thermique et en transmissivité du rayonnement solaire d'un système constitué de plusieurs blocs à cavités inclinées d'émissivité normale installé en site réel, durant les mois froids; et

- De comparer ce comportement, en terme de bilan thermique avec celui d'un mur typique de la construction actuelle selon les normes d'économies d'énergie, et soumis aux mêmes conditions climatiques que le bloc à cavités inclinées.

Les résultats ont démontré que le prototype à cavités inclinées a offert des performances en gains solaires directs et en résistance thermique qui dépassent celles des différents types de baies captrices conventionnelles (les fenêtres) ou munies d'un transmetteur sélectif. Les calculs de résistance thermique et de transmissivité du rayonnement solaire menés à partir de données expérimentales enregistrées en site réel, confèrent aux propriétés thermiques de ce prototype à cavités inclinées la validité scientifique nécessaire.

67.
TITRE : Études théoriques des systèmes de chauffage éolien
AUTEUR : Jean-Marc Arseneault
ADRESSE
BIBLIOGRAPHIQUE: Thèse (Maître ès sciences) - Université Laval, 1986
(Programme de bourses d'études)

Cette thèse contient la description succincte des différentes composantes constituant un système de chauffage éolien. L'étude d'un montage spécifique de système de chauffage éolien est faite pour un site des Îles de la Madeleine à partir des données horaires de la vitesse du vent. Le montage est principalement constitué d'une éolienne Darrieus pouvant opérer à vitesse variable. Un programme de simulation fut construit pour étudier l'influence des variations rapides de la vitesse du vent sur la production énergétique de l'éolienne. Le programme a aussi servi à développer une première commande d'asservissement du rotor éolien en fonction de la vitesse du vent.

68.
TITLE : Graphshade : A Graphical Method to Estimate the Effects of Shading in the Design of Low Energy / Passive Solar Housing : Final Report
AUTHOR : Okins, Leipciger, Cuplinskas, Kaminker and Associates Ltd. and IBI Group
IMPRINT: Ottawa : CMHC, 1987

This manual presents a simple graphical method for quickly estimating the impact of a wide range of shading elements on space heating demand and on comfort levels for low energy passive solar residential buildings. The manual is written for designers of such housing, and is primarily intended for use at the conceptual stage of design.

The manual first briefly reviews the principles of solar gain in housing design and the influence that shading may have on design and thermal performance. A wide range of shading elements is explained and the impact of these elements on energy and comfort is illustrated for three different locations across Canada. The calculation method is then explained in a series of steps. In addition, a worksheet and nomogram are used in each step. A worked example is presented. Climatic data for 23 Canadian cities is provided.

69.
TITLE : Passive Solar Homes : Principles and Designs : Final Draft
AUTHOR : Marbek Resource Consultants for CMHC
IMPRINT: Ottawa : CMHC, c1986

This book which focuses on passive solar houses has been prepared to help designers, builders, and prospective homeowners understand the state-of-the-art in passive solar housing. The book is divided into two major parts:

Part 1 provides an overview of basic passive solar design principles. The information presented is pertinent to most of Canada, excluding the far North.

Part 2 presents 24 passive solar house designs developed by 6 architectural firms from across Canada. The designs include detached, semi-detached, and row houses. The passive solar features of each design are highlighted, and estimates of expected performance are provided.

70.
TITRE : Simulation de systèmes de chauffage résidentiels utilisant une pompe à chaleur et des capteurs solaires
AUTEUR : Claude Jolicoeur
ADRESSE
BIBLIOGRAPHIQUE: Thèse (Maître ès sciences appliquées) - Université Laval, 1986 (Programme de bourses d'études)

Le but de ce travail est d'étudier les perspectives futures de systèmes de chauffage résidentiels utilisant une pompe à chaleur et des capteurs solaires. En particulier, l'emphase est placée sur les combinaisons de composantes (pompes à chaleur, capteurs solaires, réservoirs de stockage et serpentins solaires) qui sont présentement disponibles sur le marché. Cette étude est effectuée à l'aide de simulations informatiques, avec des données météorologiques horaires réelles pour une année type dans la région de Québec, et appliquées à une résidence représentative de la fin des années 1980. L'objectif est de dégager la meilleure combinaison de ces composantes qui donnera une bonne économie annuelle d'énergie et, surtout, une performance suffisante pendant les mois froids afin de réduire les inégalités du facteur de charge. En plus, des variantes qui ne sont présentement pas disponibles sur le marché, comme l'incorporation d'un évaporateur à glace à la pompe à chaleur, sont analysées afin de voir l'effet d'améliorations qui semblent possibles.

HOUSE CONSTRUCTION / HABITATIONS - CONSTRUCTION

71.
TITLE : Brick Veneer/Steel Stud Wall : Design and Construction Practices in Canada : Results of a 1986 Survey
AUTHOR : Suter Keller Inc. for the Project Implementation Division, Policy, Research and Program Sector, CMHC
IMPRINT: Ottawa : CMHC, 1986

An industry survey was conducted in order to gather information regarding practices and concerns from people involved with the brick veneer/steel stud wall system. This report summarizes the results of the survey and identifies areas of concern to the industry.

The findings indicate that the BV/SS wall system has been used across the nation for an average of 8 years and that a variety of design, construction, and inspection practices are employed. A need exists for some degree of formalization and standardization of the existing practices for the design, construction and inspection of the BV/SS wall system. The need for more research, education, and better technology transfer is shared by the majority of respondents. Since steel stud/drywall and masonry contractors are most often involved in the installation of the BV/SS wall system, future education and technology transfer efforts should be directed primarily towards these two trades. While the issue of air infiltration has been expressed as a major concern by designers and contractors alike, corrosion of metal components as well as excessive stud flexibility have not generally been observed as major problems.

72.
TITLE : Builders Information Needs Survey
AUTHOR : Canada Mortgage and Housing Corporation, Statistical Services Division for the 43rd National Conference/Exposition, Canadian Home Builders' Association, 2-5 February 1986, Edmonton, Alberta.
IMPRINT: Ottawa : CMHC, 1986

The Builders' Information Needs Survey is directed towards gaining a better understanding of the flow of technical and business information within the residential building industry. By surveying the contractors themselves as well as holding discussions and interviews with executives of builders' associations, and consultants to the industry, the study will try to establish:

- What kinds of information are deemed most useful to builders in their day-to-day operation;

- How available/accessible this information is;
- Where the information comes from; and
- What kinds of assistance or services would make the data more readily usable by builders.

Aussi disponible en français.

73.
TITLE : Crofter Evaluation : Lorette, Manitoba
AUTHOR : Gren Yuill, G.K. Yuill and Associates Ltd. for the Project Implementation Division, Policy, Research and Programs Sector, CMHC
IMPRINT: Ottawa : CMHC, 1987

A Crofter type 8 basementless house was built in Lorette, Manitoba. A standard RNH house was built concurrently on an adjacent site for comparative purposes. The Crofter house had several innovative features designed to prevent a necessity for premature rehabilitation due to a number of factors: foundation failure, excessive moisture levels causing deterioration, excessive energy usage, excessive envelope air leakage and a general lack of durability. A number of parameters were continuously monitored and combined with periodic measurements on the two houses over a heating season. Evaluation of the advanced features found in the Crofter was done from these measurements.

The results indicate that the Crofter did not perform significantly better than the standard RNH unit. The pier-and-footing foundation found in the Crofter showed slightly more movement than the conventional foundation found in the standard house. Although some wall cracking was found in the Crofter, the amount of foundation movement was not considered structurally significant. The fresh air intake system with proportional heater in the Crofter was successful in maintaining desired moisture levels, though a significant increase in electrical consumption was found. Considering the higher costs of the Crofter, it would appear that continued development of certain innovative features would be wiser than wholesale adoption of the Crofter design.

74.
TITLE : Decision Support System for Construction Cycle Design
AUTHOR : Gordon Ki-Wai Law
IMPRINT: Thesis (Master of Applied Science) - University of British Columbia, 1987 (Scholarship Program)

The objective of this thesis is to develop a conceptual design of a computerized environment for detailed design of construction activities associated with projects characterized by significant repetition.

High-rise building construction is used as the example of repetitive construction projects. The construction cycle design of a typical floor structure is studied to gain an understanding of the difficulty and complexity involved in the activity design process. Modeling techniques currently used on construction planning, modeling techniques developed in the field of operations research, and assembly line balancing techniques used in industrial engineering are reviewed to determine their applicability for detailed construction cycle design.

Using the concept of decision support systems developed in the fields of management science and knowledge engineering for solving ill-structured and ill-defined problems, a conceptual design of a decision support system for construction cycle design is developed.

75.
TITRE : Enquête sur les besoins en information des constructeurs
AUTEUR : Société canadienne d'hypothèques et de logement, Division des services statistiques pour la 43e Conférence-exposition nationale de l'Association canadienne des constructeurs d'habitations, 2-5 février 1986, Edmonton, Alberta
ADRESSE BIBLIOGRAPHIQUE: Ottawa : SCHL, 1986.

L'enquête sur les besoins en information des constructeurs a pour objet de fournir une meilleure connaissance des données techniques et commerciales qu'utilise l'industrie du bâtiment résidentiel. En interrogeant les entrepreneurs eux-mêmes et en rencontrant des dirigeants d'associations de constructeurs et des consultants, l'étude essayera de déterminer:

- Quels genres d'information les constructeurs jugent le plus utiles pour l'exercice quotidien de leur profession;
- Si ces informations existent et dans quelle mesure elles sont accessibles;
- D'où elles proviennent; et
- Quel genre d'aide ou de services les rendrait plus faciles à utiliser par les constructeurs.

Also available in English.

76.
TITLE : Home Builders' Information Needs Survey
AUTHOR : J. Farrow, O. Charlebois, and L. Bozinoff; The Coopers & Lybrand Consulting Group for CMHC
IMPRINT: Ottawa : CMHC, 1986

In order to explore ways of assisting the technology transfer process, Canada Mortgage and Housing Corporation commissioned a survey of builder's information needs. The objectives of this study were to establish:

- The major information gaps for technical and business information as seen by the industry;
- The consequences which accrue from this lack of information;
- The obstacles to meeting these informational needs; and
- The ways and means by which these needs can be efficiently and effectively met.

77.
TITLE : Lateral Restraint of Various Wall Boards in Steel-Framed Walls
AUTHOR : A.S. Zakrzewski; Proen Consultants
IMPRINT: Ottawa : CMHC, 1986 (External Research Program)

The purpose of this study was to assess the lateral restraint provided by certain types of sheathings attached with self-drilling screws to a lightweight steel frame.

A series of tests was carried out on "small scale" wall panel specimens to determine the effect of cyclic loads and of humidity on the wall parameters and the failure load. The application of a cyclic load (five cycles at each of five levels of load) resulted in a decline of the shear rigidity when compared with the results obtained from static load tests. This decrease was more pronounced in gypsum board specimens than in waferboard specimens. The absorption of moisture reduced specimen shear rigidity, although much more so in gypsum board sheathed than in waferboard sheathed specimens. The gypsum board sheathed specimens with higher moisture content failed at much lower loads. The increase of moisture content in the waferboard sheathed specimens had only marginal effect on their failure load.

An attempt was made to correlate the small scale test results with the few full scale test results reported in the literature. It appears that the wall parameters obtained from the small scale tests are very conservative. However, only more closely controlled full scale tests will quantify this conclusion.

78.
TITLE : Masonry Veneer in Highrise Buildings
AUTHOR : Proen Consultants for the Research Division, Policy Development and Research Sector, CMHC
IMPRINT: Ottawa : CMHC, 1987

This study analyzes a wall system consisting of a brick veneer wythe connected to a steel-framed backup wall by several rows of brick ties. The effect of several parameters (wall stiffness, wall height, various pressure combinations, spring constants of the brick ties, and solar effect) on bending moments in the brick wythe, the backup wall, and on the brick tie loads was investigated.

The most important conclusions were:

1. An occurrence of the first crack in the brick veneer should not be considered a structural failure; but a second crack is unacceptable.

2. The bending moments in the cracked brick veneer wythe and in the backup wall are minimized when the crack occurs at wall's mid-height.

3. Trying to prevent the occurrence of a crack in the brick veneer by increasing the stiffness of the backup wall is both very costly and unnecessary.

4. Computer simulations indicate that the brick ties may be subjected to higher loads than most brick ties currently on the market can withstand.

79.
TITLE : A Straw Bales/Mortar House Demonstration Project
AUTHOR : Louis Gagné for the Project Implementation Division, Policy, Research and Program Sector, CMHC
IMPRINT: Ottawa : CMHC, 1986.

This report describes the construction process and the related construction and labour costs of two houses - one in Chelsea and the other in Lac Bernard (La Pêche) - using the straw-bale/mortar wall construction method.

This method of wall construction is seen to offer the following advantages:

1. Low cost construction materials;

2. Simple building techniques which are well suited to a self-help building method;

3. Exceptional fire retardation properties; and
4. A high insulation value.

HOUSING / LOGEMENT

80.
TITLE : An Architectural Response to Changing Family Structures
AUTHOR : Janice Y. Mackett-Stout
IMPRINT: Thesis (Master of Environmental Design) - University of Calgary, 1987 (Scholarship Program)

The purpose of this research project is to develop a housing prototype that addresses the needs of an increasingly diverse range of household types. The narrow lot house, on a 7.6 metre wide lot, that is perhaps unique to Calgary, is used as the basis for the prototype. This approach recognizes that affordability for any household is affected by land cost, and neither large nor small house plans need the traditional large lot.

The small lot house is examined, in detail, in terms of a range of user types and preferences. Consideration is given to versatility in room design, room layout, and room relationships as well as to mechanical layout and construction techniques.

81.
TITLE : Beyond Emergency Shelters : The Need for Second-Stage Housing in Waterloo Region
AUTHOR : Wanda Romaniec and Debbie King
IMPRINT: Thesis (Master of Social Work) - Wilfrid Laurier University, 1987 (Scholarship Program)

A self-administered questionnaire was distributed to people either currently using short-term/emergency shelters or who had used such services recently. Ninety-two respondents completed the questionnaire which addressed the type and extent of difficulty encountered when looking for housing, the need for alternative housing, and demographic information.

The study reveals a need for second-stage housing in the Region of Waterloo, particularly for people who have experienced a crisis in their lives (e.g. young, single mothers; members of families that come from an abusive situation). The study also demonstrates a need for more subsidized housing since 87% of the respondents indicated that they earned less than $200.00 per week.

82.
TITLE : Dimensions of Quality in Residential Environments : A Case Study of Nuns' Island
AUTHOR : David F. Brown
IMPRINT: Ottawa : CMHC, 1987 (External Research Program)

This project is concerned with the relationship which people in medium to high density settings have with their outdoor environment. Particular attention is given to the perceptual and behavioural patterns of residents in five residential settings: owner occupied townhouses, rented townhouses, low-rise apartments, high-rise apartments and condominiums.

The study focuses on Nuns' Island which forms part of the City of Verdun, Quebec. A variety of research techniques including socio-economic analysis, site and behavioural analysis, structured and unstructured resident surveys, and intuitive observation are applied to establish the extent to which alternative housing and community planning options are congruent with the values and expectations of residents.

The results of the study indicate that differences in value orientation and attitudes vis a vis development options among residents of different housing environments are not substantial in this case study situation. Almost all residents shared similar images of their community as a "city in the country" and wanted those features which would promote this image retained in new development proposals.

83.
TITLE : Household Facilities and Equipment Survey, 1985 : Final Report on Data Quality for CMHC Questions
AUTHOR : P.D. Ghangurde, Social Survey Methods Division, Statistics Canada
IMPRINT: Ottawa : CMHC, 1986

The objective of this report is to evaluate the quality of data obtained from the 1985 questions sponsored by CMHC in the Household Facilities and Equipment Survey, based on measures such as non-response rates, edit failure, imputation rates, and characteristics of respondents and non-respondents.

The quality of data for mortgage, mobility, and repairs is better than that of the 1982 and 1983 survey because of a decrease in the level of sampling errors and response errors. However, mobility information remains far simpler to collect than mortgage data. The mortgage concepts posing the greatest difficulty to respondents were "renewable or renegotiable mortgage", "mortgage term" and "mortgage renewal date". However, understanding of mortgage concepts was found to have improved in 1985 as compared to 1983.

The author suggests that further reduction in the level of response errors can be achieved by more intensive training of interviewers.

84.
TITLE : Housing in Canada 1945 to 1986 : An Overview and Lessons Learned
IMPRINT: Ottawa : CMHC, 1987

This document summarizes two important studies of Canada's postwar experience in housing. Commissioned by Canada Mortgage and Housing Corporation, the housing agency of the Government of Canada, the studies have brought together the views of academics, builders and planners in a deliberate re-examination of our progress in housing and the development of our housing industry.

Aussi disponible en français.

85.
TITRE : L'Impact de l'exode urbain sur les activités de construction au Québec méridional entre 1966 et 1981
AUTEUR : Josée Garneau
ADRESSE
BIBLIOGRAPHIQUE: Mémoire (Maîtrise ès sciences) - Université de Montréal, 1986 (Programme de bourses d'études)

Cette étude vise à examiner le phénomène de l'exode urbain et ses conséquences sur le territoire rural au Québec méridional entre 1966 et 1981. Il s'agit surtout de déterminer les principaux facteurs expliquant la croissance (ou la décroissance) de l'activité de construction en milieu rural et de comparer les différents comportements entre les régions urbaines et rurales.

L'étude a permis de constater que le niveau d'exurbanisation au Québec n'atteint pas encore (si jamais il devait l'atteindre) celui observé aux États-Unis. Ces migrations ex-urbaines ont toutefois nécessité des mises en chantier de type résidentiel, ce secteur ayant démontré la plus forte augmentation et révélant les coéfficients de régression les plus significatifs en milieu rural.

86.
TITLE : The Impact of Government Regulation on Fishers in Two Nova Scotia Fishing Communities That Differ Markedly in Prosperity
AUTHOR : Norval H. Collins
IMPRINT: Thesis (Master of Urban and Rural Planning) - Technical University of Nova Scotia, 1987 (Scholarship Program)

In this study two rural fishing communities, markedly different in prosperity on the basis of earned income, were compared in terms of spending patterns and housing characteristics to determine the extent to which government programs reduced the disparity between them. It was found that government programs substantially reduced the difference between the two communities in terms of income and housing quality.

Comparison of assessed values between the two communities was found to better reflect differences between the two communities than indicators of core need as defined by CMHC. Affordability in these rural communities was found not to be a useful indicator of housing need.

87.
TITRE : Le Logement au Canada de 1945 à 1986 : vue d'ensemble et leçons à tirer
ADRESSE
BIBLIOGRAPHIQUE: Ottawa : SCHL, 1987

Ce document résume deux études importantes qui ont été faites sur le logement au Canada depuis la Seconde Guerre mondiale. Commandées par la Société canadienne d'hypothèques et de logement, l'organisme fédéral chargé de l'habitation, ces études rassemblent ce que des universitaires, des entrepreneurs en construction et des urbanistes pensent de nos progrès dans le domaine du logement et du développement de notre industrie.

Also available in English.

88.
TITLE : A Report on the Impacts of Public Mortgage Insurance on the Quality of Single Family Housing
AUTHOR : Strategic Planning and Policy Development Division, CMHC
IMPRINT: Ottawa : CMHC, 1986

This report draws conclusions about the present impact of the mortgage loan insurance program on housing quality. Most of the conclusions are based on the results of a field survey which compared the quality of houses insured under the National Housing Act to an equivalent group of non-NHA houses. Several indicators of housing quality were defined and 411 houses were surveyed. The sample was gathered in four locations and represented two construction eras: 1975 to 1979 and 1980-1985.

It was expected that NHA housing would be better than non-NHA housing because Residential Standards require certain features not required by the National Building Code and NHA housing goes through a regime of CMHC compliance inspection which is not applied to conventional housing. Further, it was expected that the effect on housing quality of NHA lending requirements would be more evident in less-developed housing markets than in more highly developed markets where additional quality assurance mechanisms are present.

The survey results suggest that at present, in less-developed housing markets NHA housing is of marginally better quality but that for well-developed housing markets (the majority), the fact of NHA insurance does not result in a better built product. The results must not, however, be interpreted as saying that the quality of Canadian housing has been unaffected by NHA lending requirements, nor that CMHC activities other than the MLI Program, do not significantly affect housing quality.

89.
TITLE : The Role of Community Participation in Human Settlements
AUTHOR : Terry Robinson, Canada Mortgage and Housing Corporation for the Canadian Delegation, United Nations Commission on Human Settlements, 9th Session, Istanbul, Turkey, May 5-16, 1986
IMPRINT: Ottawa : CMHC, 1986

The first section of this report presents an overview of the range of community participation in housing related activities in Canada.

In the second section, the focus shifts to Canada's role in assisting the developing world, and briefly describes some typical projects which have succeeded in contributing to the community participation process.

The concluding sections present a set of recommendations regarding the enhancement of community participation in human settlements work. Recommendations are grouped according to the "Issues for Discussion" set forth in the report of the UNCHS Executive Director.

HOUSING CHOICE / CHOIX DES HABITATIONS

90.
TITLE : An Analysis of Ethnic Intra-Urban Migration : The Case of Winnipeg
AUTHOR : Bernard D. Thraves
IMPRINT: Thesis (Ph.D.) - University of Manitoba, 1986 (Scholarship Program)

This thesis examines the past and prospective migration behaviour of selected ethnic groups residing in Winnipeg, Manitoba. Analysis of migration behaviour focuses on: 1) a citywide comparison of six of Winnipeg's principal ethnic groups; and 2) an intra-district comparison of ethnic groups residing in six areas of distinct ethnic identity.

The findings suggest that the experience and expectations of ethnic migration are characterized by relatively few inter-ethnic differences in behaviour. Where differences are confirmed, these differences tend to involve groups with distinctive segregation, income, or urbanization characteristics.

91.
TITLE : Housing as Consumption and Investment : Final Report
AUTHOR : Frank T. Denton, A. Leslie Robb, and Byron G. Spencer
IMPRINT: Ottawa : CMHC, 1986, c1987

A theoretical model is developed in which housing is treated as both a consumption good and an investment good. A multiperiod Stone-Geary type of utility function is first specified, and then reduced to an equivalent two period form. Rental and owned housing are incorporated into the two-period function as separate arguments, along with nonhousing goods. The utility function is specified also to include future assets, as represented by both their expected value and their variance, thus allowing for owned housing to be treated as a risky component of the household investment portfolio. A linear expenditure system is derived from the utility model, and the system is estimated using microdata from the 1982 Statistics Canada Survey of Family Expenditures, together with other data. A tenure-choice function is appended to the model and estimated also, as a probit function. Suggestions are made with regard to future extensions of the research and the possible acquisition of new types of data that would permit the estimation of more comprehensive models. Particular emphasis is placed on the importance of geographic identification, price variables, asset information, and information about households that change residence.

92.
TITLE : The Ideal Home : A Reconsideration
AUTHOR : Paula M. Pranovi
IMPRINT: Thesis (M.A.) - University of Waterloo, 1982 (Scholarship Program)

This thesis aims to determine the attributes of the ideal home and to ascertain whether these could be satisfied by an alternative form of housing. An evaluation of medium density housing forms has identified the freehold row house as the most comparable alternative to the detached house.

The findings show that housing choice is primarily influenced by value orientations as affected by social class, level of education, and life-style. However, perceptions of the ideal change over time as affected by life-cycle stages, household maturity, and life-style choices. Given changing lifestyles and the increasing number of smaller households, the author concludes that the freehold row house is a viable alternative to the single family detached house, even in the suburbs.

HOUSING FORECASTING & DEMAND / PRÉVISION ET DEMANDE DE LOGEMENTS

93.
TITLE : Estimation of Own Price Elasticities for Housing Demand : The Case of Resale Markets and Perfectly Inelastic Supply
AUTHOR : David Christopher Bibby
IMPRINT: Thesis (M.A.) - University of Victoria, 1986 (Scholarship Program)

This thesis develops a technique for estimating the demand for housing, including both price and quantity information in the face of a supply relation in which only one variable is permitted to vary. In this case it is the resale market for housing that is modeled. The capital stock of housing is fixed in the short run and therefore the supply relation is perfectly inelastic. There is an identification problem posed by a perfectly inelastic curve. According to the supply assumption, all that can be observed is price changes for a fixed quantity of housing units.

94.
TITRE : Examen des questions en matière de logement dans les années 1980 et 1990 : les facteurs qui influeront sur l'ajustement structurel de l'industrie de la construction résidentielle
AUTEUR : Société canadienne d'hypothèques et de logement, Division de la recherche pour la 43e Conférence - exposition national de l'Association canadienne des constructeurs d'habitations, 2-5 février 1986, Edmonton, Alberta.
ADRESSE BIBLIOGRAPHIQUE: Ottawa : SCHL, 1986

Ce document présente un aperçu de l'industrie de la construction résidentielle au Canada et ses perspectives au cours des 15 prochaines années. Le but recherché est d'aider l'industrie à s'adapter au changement afin qu'elle continue de produire et de rénover, dans un avenir prévisible, le nombre et le genre de logements qui seront nécessaires au moment et à l'endroit voulus.

Le document décrit:

- L'état actuel de l'industrie;
- Les forces économiques et démographiques qui façonneront son environnement;
- L'évolution possible de ses nouveaux marchés et les façons innovatrices de les exploiter;
- Les ressources prévues en terrains, matériaux, main-d'oeuvre, et capital;
- L'avenir important de la rénovation résidentielle; et
- Les modifications structurales qui frapperont forcément l'industrie lorsque celle-ci devra faire face aux transformations radicales que devraient subir ses marchés.

Also available in English

95.
TITLE : Forecasting Canada's Housing Needs to 2000 : The Proceedings of a Seminar Presented by the Canadian Housing Design Council on Friday, June 21, 1985 in Toronto
IMPRINT: Ottawa : CMHC, 1985

This report reproduces the texts of 12 short presentations given at a seminar on the theme of forecasting Canada's housing needs to the year 2000 and identifying ways to meet those needs.

96.
TITLE : Housing Issues in the 1980s and 1990s : Factors Which Will Affect Structural Adjustment in the Residential Construction Industry
AUTHOR : Canada Mortgage and Housing Corporation, Research Division, for the 43rd National Conference / Exposition, Canadian Home Builders' Association, 2-5 February 1986, Edmonton, Alberta
IMPRINT: Ottawa : CMHC, 1986

This paper presents an overview of the residential construction industry in Canada and its prospects over the next 15 years. Its intent is to facilitate the industry's adjustment to change so that it can continue to produce and renovate the number and types of housing units, where and when they are required, for the forseeable future.

The paper describes:

- The industry as it now exists;
- The demographic and economic forces which will shape its environment;
- The way in which its new markets may evolve and innovative ways in which they can be exploited;
- The projected availability of land, materials, labour, and capital;
- The important future for residential renovation; and
- Structural changes which will have to occur in the industry as it comes to grips with the radical changes which are projected to occur in its markets.

Aussi disponible en français

97.
TITLE : Housing Issues in the 1980s and 1990s : Factors Which Will Affect the Residential Development and Construction Industry
AUTHOR : Canada Mortgage and Housing Corporation, Research Division for the National Conference Urban Development Institute, 4-16 May 1986, Ottawa, Ontario
IMPRINT: Ottawa : CMHC, 1986

This paper presents an overview of the residential development and construction industry in Canada and its prospects over the next 15 years. Its intent is to identify factors which will affect the environment in which the development and construction industries will function and thereby facilitate changes in these industries so that they continue to perform in an effective and efficient manner.

The paper describes:

1. The role of residential development and construction in the economy;
2. The structure of the housing industry as it now exists;
3. The demographic and economic forces which will shape its environment;
4. The way in which its new markets may evolve and innovative ways in which they can be exploited;
5. The projected availability of land, materials, labour and capital;
6. The importance of residential renovation; and
7. Structural changes which will likely occur in the industry as it comes to grips with the radical changes which are projected to occur in its markets.

98.
TITLE : Longitudinal Designs for Housing Research
AUTHOR : Greg Mason
IMPRINT: Ottawa : CMHC, 1986, c1987, 3 vol.

This report evaluates the use of longitudinal data analysis for housing research, particularly from the demand side. The various types of data common to socio-economic analysis are considered with special emphasis on how such information supports causal analysis and policy design. Particular problems in designing and collecting longitudinal information are also reviewed. Special attention is paid to the design and administration of survey instruments, field operations, and data base design and management.

The Manitoba Basic Annual Income Experiment (MINCOME), which collected detailed socio-economic information from households in Winnipeg, forms the basis for a case study. This case study provides insight into the problems and potential for longitudinal research in housing.

The report concludes that a research program in housing featuring longitudinal data is technically feasible, policy relevant, and fiscally defensible.

Vol. 2: MINC1 : MINCOME Baseline Summary File

MINC1 contains 91 variables constructed from data in the first major survey undertaken by the MINCOME guaranteed annual income experiment, the baseline. The variables are of three types: variables that apply to the household (family size), variables that apply to the male head (if present), and variables that apply to the female head.

Vol. 3: Housing Variables from MINCOME MINC 8 : Codebook

This codebook presents the codes used for the housing variables in the MINCOME data file.

HOUSING MARKET / MARCHÉ DU LOGEMENT

99.
TITLE : The Demand for Housing
AUTHOR : Canada Mortgage and Housing Corporation, Research Division for the 43rd National Conference / Exposition, Canadian Home Builders' Association, 2-5 February, 1986, Edmonton, Alberta.
IMPRINT: Ottawa : CMHC, 1986

The demand for housing within the local housing market arises from three sources:

- New household formation;
- Movement of new households; and
- The movement of existing households out of their current units to other dwellings within the local housing market.

The purpose of this paper is to outline the steps to be followed when preparing a basic statistical picture of the local housing market. This data, consisting of geographic and demographic information, can be used as input to the builder's marketing strategy.

Two cities, Edmonton, a relatively large housing market, and Red Deer, a relatively small one, are used to illustrate how the variety of public information can be used.

Aussi disponible en français.

100.
TITRE : La Demande de logement
AUTEUR : Société canadienne d'hypothèques et de logement, Division de la recherche, pour la 43e Conférence - exposition nationale sur l'Association canadienne des constructeurs d'habitations, 2-5 février, 1986, Edmonton, Alberta
ADRESSE BIBLIOGRAPHIQUE: Ottawa : SCHL, 1986

La demande de logements au sein d'un marché local se compose de trois éléments:

- La formation des nouveaux ménages;
- Le mouvement des nouveaux ménages qui émigrent dans le marché du logement local; et
- La migration interne des ménages au sein du marché local.

Ce document a pour but d'énumérer les étapes à suivre pour quiconque désire dresser une image statistique de base du marché du logement dans sa localité. Les données compilées peuvent alors servir à préparer la stratégie de commercialisation du constructeur.

Pour illustrer la façon dont un constructeur peut facilement obtenir et utiliser les diverses données mises à la disposition du public, deux villes sont données en exemple: Edmonton avec un marché du logement relativement important et Red Deer, dont le marché est moins imposant.

Also available in English.

HOUSING POLICY / POLITIQUE DU LOGEMENT

101.
TITLE : The Economic Impact of the Canadian Homeownership Stimulation Plan and the Canadian Home Renovation Plan
AUTHOR : National Forecasting and Analysis Group, The Conference Board of Canada for Canada Mortgage and Housing Corporation
IMPRINT: Ottawa : CMHC, 1986

In this study, The Conference Board of Canada used its Medium-Term Forecasting Model to examine the separate economic impacts of the Canadian Homeownership Stimulation Plan (CHOSP) and the Canada Home Renovation Plan (CHRP). Particular attention was paid to each

program's impact on employment, interest rates, the federal government balance, and activity in the construction industry.

The report contains estimates of the net cost per job created, over both the short and longer run, and an assessment of each program's direct, indirect, and induced effects on the Canadian economy. All results are based on Canada Mortgage and Housing Corporation estimates of program expenditures and their first-round impact on the housing sector.

Over the short run, the study indicated that CHOSP had a substantial positive impact on total employment at a very reasonable net cost per job. CHRP, on the other hand, appears to have had only a modest impact on employment. Consequently, its short-run cost per job was relatively high. Over the medium term, the inability of either program to maintain a positive employment impact contributes to a marked deterioration in the cost effectiveness of both CHOSP and CHRP. In the case of CHOSP, this assessment appears to be critically tied to the degree to which the introduction of the program served to push up Canadian interest rates.

102.
TITLE : The Effect of CHOSP on Housing Starts
AUTHOR : Gordon R. Sparks
IMPRINT: Ottawa : CMHC, 1986

The purpose of this study is to determine the effect of the Canadian Homeownership Stimulation Plan (CHOSP) on construction activity.

A stock adjustment model is used to explain the level of single-unit starts and the major determinants of the desired stock per capita are found to be income per capita, mortgage interest rate, inflation rate, and dummy variables included to represent CHOSP. The program is found to have a highly significant influence and during the four quarters it was in effect, single-unit starts are estimated to have been about 53 percent higher than would have been the case without CHOSP.

During the year and a half following the termination of the program, starts are estimated to have been about four percent lower as a result of the buildup of the stock during the CHOSP period. The stock adjustment model predicts that within five years there is a reduction in starts that accumulates to one-third of the total number of starts induced by CHOSP during the period it was in effect. Ultimately, there is a complete offset but this occurs very slowly over time.

103.
TITLE : The Effect of CHOSP on Housing Starts : Preliminary Final Report
AUTHOR : John D. Todd, Econalysis Consulting Services for CMHC
IMPRINT: Ottawa : CMHC, 1986

This study examines the effect of the Canadian Homeownership Stimulation Plan (CHOSP) on housing starts in Canada. Three aspects in particular are considered:

1. The relative importance of declining interest rates and CHOSP to the miniboom in construction of single-detached housing in the 1982-83 period;

2. The extent to which CHOSP "brought forward" starts from the period after the termination of the program; and

3. The spillover effect on rental starts and the effect on the quality of new housing.

The CHOSP effect on ownership housing starts is estimated in two ways: using an econometric equation of housing starts and using a system dynamics model.

Overall, the findings support the conclusion that CHOSP stimulated construction activity in the housing industry. However, since the decline in starts in later periods offset the gains realized during the program, CHOSP appears to have had a stabilizing effect in which it increased starts in the quarters before the stimulative effect of declining interest rates was felt. However, there was a slight reduction in starts once the interest rate effect took hold.

104.
TITLE : Facilitating Production of Affordable Housing Through Regulatory Reform and Streamlining Approval Processes
AUTHOR : Canada Mortgage and Housing Corporation, Research Division for the National Conferences of the Canadian Association of Housing and Renewal Officials, 26-28 May 1986, Toronto, Ontario and the Federation of Canadian Municipalities, 2-5 June 1986, Hamilton, Ontario
IMPRINT: Ottawa : CMHC, 1986

The objectives in producing this paper are:

- To identify the types of problems (real or perceived) that are being attributed to regulations that affect the development of new housing, or the renovation or conversion of existing housing;

- To identify initiatives that have been taken to address these problems, both in Canada and abroad; and

- To identify opportunities for regulatory reform in Canada and to outline various strategies for promoting and facilitating reform.

Aussi disponible en français.

105.
TITLE : Housing Subsidies in a Period of Restraint : The Canadian Experience, 1973-1984
AUTHOR : J. David Hulchanski and Glen Drover
SERIES : Institute of Urban Studies, Research and Working Paper No. 16
IMPRINT: Winnipeg, Man. : Institute of Urban Studies, University of Winnipeg, 1986

This paper examines Canadian housing subsidies from 1973-1984, during a period of economic and fiscal restraint. In theory, Canadian restraint measures were intended to be directed towards those who would be helped by social housing programs. In reality, subsidies on social housing were held to a minimum while private sector assistance fluctuated dramatically depending upon market conditions. The net distributional effect of the changes increased the bias of Canada's housing subsidies toward homeownership and private rentals over various forms of social housing. Middle class homeowners and real estate developers were the primary beneficiaries.

106.
TITLE : Policy Analysis : Canadian Housing Policy and the Issue of Social Mix
AUTHOR : Ravi Shankar Pendakur
IMPRINT: Thesis (Master of Environmental Studies) - York University, 1987 (Scholarship Program)

This thesis reviews the rationales for including social mix as a policy objective and analyzes the means by which such developments can and have been created. The analysis is broken down into three time periods representing three housing policy periods. As well four projects developed during different policy periods using a variety of programs and approaches have been utilized to illustrate the ways in which socially mixed environs can be created.

Throughout, a Critical Framework for analysis is utilized to better understand how and why social mix programs can and have been used. Through this perspective, it is determined that social mix as a policy goal is accepted in the political arena not for any intrinsic social benefit it may provide but rather because it is viewed as a politically acceptable alternative to public housing.

The thesis concludes that the creation of socially balanced projects requires a high degree of public intervention both to control and finance development, but that the net benefit in terms of creating affordable housing justifies the cost. It is further concluded that Critical Theory and the analytical perspective it provides is a valuable tool for policy and planning analysts.

107.

TITRE : La Réforme de la réglementation et la rationalisation des processus d'approbation comme moyens de favoriser la production de logements abordables

AUTEUR : Société canadienne d'hypothèques et de logement, Division de la recherche pour les conférences nationales de l'Association canadienne des responsables de l'habitation et de l'urbanisme du 26 au 28 mai 1986, Toronto, Ontario et de la Fédération canadienne des municipalités de 2 au 5 juin, 1986, Hamilton, Ontario

ADRESSE BIBLIOGRAPHIQUE: Ottawa : SCHL, 1986

Ce document a pour objectif:

- De cerner les types de problèmes (réels ou perçus) que l'on attribue aux règlements qui influent sur l'aménagement de logements neufs, ou sur la remise en état ou la transformation de logements existants;
- De relever les initiatives qui ont été prises pour régler ces problèmes tant au Canada qu'à l'étranger; et
- De cerner les domaines possibles de réforme de la réglementation au Canada et de décrire brièvement diverses stratégies en vue de promouvoir et de faciliter la réforme.

Also available in English

HOUSING RESEARCH / LOGEMENT - RECHERCHE

108.
TITLE : Establishment of a National Housing Research Committee to Coordinate Research in the Housing Field : A Paper for Consultation
AUTHOR : Canada Mortgage and Housing Corporation
IMPRINT: Ottawa : CMHC, 1986

This Consultation Paper is intended to both generate and form a basis for discussion on the most effective way of structuring a committee to coordinate housing research activities in Canada. As well as identifying the proposed objectives of the committee the paper examined options with regard to:

- The role of the Committee;
- Its composition and structure; and
- Its methods of operation and administrative arrangements.

Aussi disponible en français.

109.
TITRE : L'Établissement d'un Comité national de coordination de la recherche sur le logement : document de consultation
AUTEUR : Société canadienne d'hypothèques et de logement
ADRESSE BIBLIOGRAPHIQUE: Ottawa : SCHL, 1986

Le présent document de consultation vise à créer une base de discussion et à susciter des échanges pour trouver la meilleure façon de structurer un comité qui aurait pour tâche de coordonner les activités de recherche en matière de logement au Canada. En plus des objectifs proposés par le Comité, le document aborde diverses options touchant:

- Le role du Comité;
- Sa composition et sa structure; et
- Son mode de fonctionnement et ses dispositions administratives.

Also available in English.

110.
TITRE : Rapport sur le processus de consultation : Comité national de recherche sur le logement
AUTEUR : Société canadienne d'hypothèques et de logement
ADRESSE
BIBLIOGRAPHIQUE: Ottawa : SCHL, 1986

À la mi-juillet, le document de consultation intitulé "L'établissement d'un Comité national de coordination de la recherche sur le logement" était envoyé aux provinces et aux territoires, aux associations industrielles, à la Fédération canadienne des municipalités (FCM), à l'Association canadienne des responsables de l'habitation et de l'urbanisme (ACRHU), aux groupes d'intérêt du secteur et à certains ministères fédéraux.

Nous avons joint 36 organismes, ce qui a donné lieu à 17 réunions et 20 réponses écrites.

Le document de consultation demandait le point de vue des destinataires au sujet des objectifs, du rôle, de la structure, de la composition, et des activités du Comité proposé. La réaction, généralement favorable, penchait du côté d'un comité relativement sans formalités et favorisant le consensus et la collaboration.

Also available in English.

111.
TITLE : A Report on the Consultation Process : National Housing Research Committee
AUTHOR : Canada Mortgage and Housing Corporation
IMPRINT: Ottawa : CMHC, 1986

In mid July, the consultation document "The Establishment of a Housing Research Committee" was sent to the Provinces and Territories, the Industry Associations, the Federation of Canadian Municipalities (FCM) and the Canadian Association of Housing Renewal Officials (CAHRO), appropriate interest groups, and selected federal government departments.

36 organizations were contacted leading to 17 meetings and 20 written responses.

The consultation document asked for the recipient's views on the objectives of the proposed committee, its role, structure, membership, and operations. In general, the response was positive with the preference being for a committee with a relatively informal structure to encourage consensus and cooperation.

Aussi disponible en français.

INNER CITY / NOYAU URBAIN

112.
TITLE : Inner City Gentrification : The Case of Shaughnessy Village, Montreal
AUTHOR : Isabel Corral
IMPRINT: Research Project - McGill University, 1986 (Scholarship Program)

The purpose of this paper is to:

1. Review the process of gentrification and its evolution as a major force in North American central city renewal over the past 15 years;

2. Present the findings of a case study of gentrification in the Shaughnessy Village neighbourhood; and

3. Analyze both the primary and secondary effects of gentrification.

The evidence suggests that gentrification has caused both positive and negative changes to the socio-economic fabric of Shaughnessy Village. Its primary negative impact involves displacement. In the first instance, this displacement affects renters, but in the long run gentrification may also cause the displacement of long-time homeowners who may not be able to afford increased property taxes.

113.
TITLE : Reinvestment in Older, Inner-City Housing
AUTHOR : Trudi E. Bunting
IMPRINT: Ottawa : CMHC, 1986 (External Research Program)

An examination of household and housing characteristics in the inner residential zones of the City of Kitchener over the period 1971-1981 shows patterns of change suggestive of both revitalization and decline. More detailed survey of the six innermost tracts produces stronger evidence of modest, yet substantial, upgrading undertaken by newly resident homeowning households. There are different types of households undertaking renovations and they have different stated reasons for purchasing an inner-city home. The general pattern represents a continuum that ranges from the homogeneously residential, more "middle-class", tracts at one end, to the more "working-class"

neighbourhoods with mixed land use patterns at the other. Two well-documented processes of residential change, gentrification on the one hand, and incumbent upgrading/stability, on the other, can be conceived as positioned at each respective end of this continuum. Despite these differences, rates of reinvestment remain modest across the sample. The somewhat inconspicuous form of upgrading found in this survey is put forward as an alternative type of inner-city change distinct from the well-recognized extremes of gentrification and decline. In the broader context, it is thought that this style of upgrading may be more typical of medium, rather than large-sized, and of Canadian, rather than American cities.

LAND USE / UTILISATION DU SOL

114.

TITRE :	Les Conséquences du zonage agricole (loi 90) sur la frange rurale-urbaine de la communauté urbaine de Québec
AUTEUR :	Claude G. Gauthier
ADRESSE BIBLIOGRAPHIQUE:	Thèse (Maîtrise, School of Urban Planning) - McGill University, 1987 (Programme de bourses d'études)

Cette recherche a pour but de mesurer les impacts de la loi 90 sur le marché foncier, la propriété, et les superficies agricoles dans la zone périurbaine de la communauté urbaine de Québec (CUQ). Elle examine également les décisions de la Commission de protection du territoire agricole (CPTA) chargée d'appliquer la loi, et comment ses décisions influent sur la planification de la zone périurbaine de la CUQ.

Les résultats permettent d'affirmer que la loi sur la protection du territoire agricole a rééquilibré quelque peu l'utilisation du sol dans la région de Québec. Elle a en outre favorisé l'éclosion d'un climat socio-économique plus stable et plus propice au mieux-être de l'agriculture périurbaine en rassurant les agriculteurs inquiets ou perplexes devant les poussées de l'urbanisation incontrôlée.

115.
TITLE : The Effect of an Inactive Landfill Site on Adjacent Housing Values : A Study of a Landfill Site in Ontario
AUTHOR : John Clifford Bullen
IMPRINT: Master of Urban and Regional Planning. Kingston, Ont. : School of Urban and Regional Planning, Queen's University, 1987 (Scholarship Program)

The purpose of this study was to test the hypothesized suggestion that an inactive landfill site has a depreciating effect on the value of adjacent single family dwellings. The Ottawa Street Landfill, in Kitchener, was chosen as the test site. Both the Property Value Approach and Hedonic Price Theory were used to measure the impact.

Results from the linear regression analysis indicate that inactive landfill sites do have a depreciating effect on adjacent housing values. Homes 200 feet from the Ottawa Street Landfill sustain a price loss of approximately $4,700. The study recommends the establishment of buffer zones in order to minimize the property value impact.

116.
TITRE : Macro zonage et relation population - espaces résidentiels : une revue de la littérature
AUTEUR : Pierre Deslauriers
ADRESSE BIBLIOGRAPHIQUE: Rapport (Maître ès sciences) - Université de Montréal, 1986 (Programme de bourses d'études)

Le but de cette recherche est de présenter et d'analyser les études les plus récentes sur le zonage, en tant qu'outil d'intervention des pouvoirs publics, sur la croissance des espaces résidentiels en milieu péri-urbain. Elle vise surtout: à isoler les effets de mesures de zonage dans le contexte des interventions récentes de l'État québécois dans la région métropolitaine de Montréal; et à examiner la relation entre la croissance des espaces résidentiels et la croissance de la population à travers les nouvelles conditions engendrées par le zonage.

117.
TITRE : Utilisation du sol
AUTEUR : Christophe Caron et Dominique Lachance
COLLECTION : Analyse du cadre bâti des quartiers St-Louis et Mile-End
ADRESSE BIBLIOGRAPHIQUE: Montréal, Qué. : GIUM (Groupe d'intervention urbaine de Montréal), 1986 (Programme de recherche extérieure)

Ce cahier fait partie d'une série de cinq documents traitant de l'utilisation du sol et de la qualité du cadre bâti de quartiers centraux à Montréal (St-Louis, Gilford, Maguire et Mile-End). Tous les espaces, construits ou non, ont été analysés à l'aide d'une grille comportant 91 variables. Les quelques 4,600 bâtiments et autres espaces ont été recensés par une douzaine de releveurs sur le terrain, générant ainsi plus de 400,000 données.

Les résultats indiquent que près des trois quarts du stock immobilier sont affectés à la fonction résidentielle, soit 72%, et les bâtiments combinant logements et commerces, ou habitation et espaces à bureaux comptent pour un 12% additionnel. Environ 60% des terrains non-bâtis sont occupés par du stationnement tandis que les autres sont simplement des terrains vacants, en attente d'une éventuelle vocation.

LANDSCAPE ARCHITECTURE / ARCHITECTURE DU PAYSAGE

118.
TITLE : Visual Resource Management and Computer Aided Design
AUTHOR : Geoff D.D. Morrison
IMPRINT: Thesis (M. Phil in Landscape Architecture) - University of Edinburgh, 1986 (Scholarship Program)

Two key issues are examined in this thesis: firstly, the need to manage visual resources in the long term which would require a marriage of visual resource management and industrial development objectives; and secondly, the need for accurate and explicit techniques of quantifying and evaluating the visual impact of an industrial development throughout its duration. Reference is made to two countries, Britain and Canada, where the respective approaches for assessing the environmental impact of large resource based industries are now well tried and tested.

Computer aided visual analysis and portrayal techniques are investigated within this context. A range of software packages applicable to landscape architecture are described to reveal their

immaturity, strengths, and general potential to satisfy the demands of designers, developers, and decision makers. Visual resource management is discussed as a framework within which a pallette of computer based visual analysis and portrayal techniques may be utilized and developed.

MANUFACTURED HOUSING / HABITATIONS USINÉES

119.
TITLE : CAM and Manufactured Housing
AUTHOR : Terry Frost
IMPRINT: Ottawa : CMHC, 1985 (External Research Program)

The study objectives were to identify and assess ways of linking computer aided design (CAD) and computer aided manufacturing (CAM) in the production of manufactured houses. Current practices in the United States, Japan, and Sweden were examined.

The major findings were:

1. There is no significant example of CAD/CAM technology in the housing industry in North America.

2. The direct link between CAD and CAM does not exist in Japan.

3. Both Japan and Sweden have developed automated manufacturing technology which could be used in Canada without the expense of the research and development carried out to date.

4. Ongoing research and development is a major component of maintaining an up-to-date manufacturing facility.

5. The economies of scale require far less production than anticipated. The panelized approach extends the market area of a factory due to the compactness of the units being moved.

6. The consumer's perception of manufactured housing is a major roadblock to marketability, yet manufactured housing can easily meet the quality and performance standards of on-site construction.

120.
TITRE : Des Maisons de qualité
AUTEUR : Société québécoise des manufacturiers d'habitations
ADRESSE
BIBLIOGRAPHIQUE: Anjou, Québec : La Société, 1986

Le but de projet était d'assister à la production d'une brochure d'information sur les maisons préfabriquées au Québec.

Le dépliant décrit l'industrie, identifie les matériaux de construction, et mentionne l'expérience mondiale avec ce type de construction.

MOISTURE PROBLEMS / HUMIDITÉ

121.
TITLE : Attic Moisture Control North of 60: Investigation and Comparison of Two Potential Solutions
AUTHOR : Ferguson, Simek, Clark, Engineers and Architects for CMHC
IMPRINT: Ottawa : CMHC, 1984

This study was initiated by C.M.H.C. to take an objective, scientific look at two possible retro-fit solutions to attic moisture control.

Two potential moisture control solutions were investigated: a new vapour barrier retro-fit, and the addition of an insulated metal roof over the existing roof. Identical houses were used for both solutions, with 5 vapour barrier retro-fits in Cambridge Bay, N.W.T., 4 metal roof retro-fits in Eskimo Point, N.W.T., and 3 modified metal roof retro-fits in Baker Lake, N.W.T. The test houses were four bedroom, stick-built houses with wood truss roof framing, ceiling insulation, and an attic space vented to the outdoors. The houses were approximately 6 years old.

Based on the observations in this study, the metal roof retro-fits had better moisture control performance than the vapour barrier retro-fits. Moreover, the metal roof system minimizes future maintenance and replacement costs.

122.
TITLE : Moisture Source Strength: Measurements in Selected Canadian Cities
AUTHOR : Grant Wichenko, Appin Associates ... et al., for the Project Implementation Division, Policy, Research and Programs Sector, CMHC
IMPRINT: Ottawa: CMHC, 1987

The purpose of this study was to broaden the base of moisture source strength data and to verify test procedures by undertaking moisture source strength tests in the Prairie and Atlantic regions. 35 moisture source strength tests were carried out in 22 houses in Regina, Winnipeg, Halifax, and St. John's. One house in each city was selected for multiple testing.

The study reached the following conclusions:

- Moisture source strength testing represents a "snapshot" of conditions within a house, and therefore cannot provide a complete assessment of the potential for moisture problems.
- Multiple testing produced widely varying results, especially in older, leakier houses. Test results indicated that the quantities of moisture being processed by typical houses are often much higher than is conventionally expected.
- The small sample size did not allow definitive conclusions to be drawn regarding climatic or geographic differences, the distribution of moisture source strength floor by floor, or the effects of storage.
- In attempting to correlate moisture source strength findings with the extent of moisture problems, the Consultant noted that the internal moisture source strength from internal sources, ground sources and storage (IMSS) often equals or exceeds the moisture source strength from ventilation (VMSS).

123.
TITLE : Prairie Moisture Problems: Crawl Space Investigations in Norway House, Manitoba
AUTHOR : Harold Katzin, IBI Group for Project Implementation Division; Policy, Research and Programs Sector, CMHC
IMPRINT: Ottawa: CMHC, 1987.

The objective of this research project was to implement and evaluate various crawl space remedial measures in order to assess their effectiveness in reducing moisture problems. Five moisture troubled houses in Norway House, Manitoba were investigated. Crawl space moisture sources were eliminated or reduced by sealing the crawl spaces from the foundation walls and surrounding subgrade. Air and wood moisture contents were monitored both before and after remedial measures were undertaken.

Findings did not indicate that high crawl space moisture levels had a significant impact on moisture problems in the living area of the house. However, there was considerable evidence of moisture-related deterioration in the crawl space itself.

The study exposed a number of "Achilles' heels" and inherent contradictions in the current method of constructing crawl spaces in remote locations. The Consultant made several recommendations regarding both new construction and the retrofitting of existing units. The most satisfactory solutions would appear to be a raised dwelling with a heated crawl space at grade level or a post foundation with the crawl space left open.

124.
TITLE : Report Regarding Moisture in Floor Space
AUTHOR : Harold Orr and Associates
IMPRINT: Ottawa: CMHC, c1987.

This five page report describes a visit by the consultant to the Cambridge Bay and Tuktoyaktuk to investigate the problem of moisture in floor insulation. The cause of the problem was determined to be leakage of domestic water systems. The consultant also comments on an additional problem of sewer gas leaking into the house and proposes passive venting as a possible solution.

125.
TITLE : Ventilation Alternatives for Maritime Houses: Final Report
AUTHOR : Buchan, Lawton, Parent Ltd. for CMHC
IMPRINT: Ottawa: CMHC, 1986

This report examines the effectiveness of low-cost ventilation systems in reducing moisture problems in houses in Maritime climates. A six unit row house block in Dartmouth, Nova Scotia was the subject of the study. Three different ventilation systems were installed in separate interior units: a humidistat controlled bathroom exhaust fan; a humidistat controlled through-the-wall fan mounted in the kitchen; and a whole house fan, also controlled by a humidistat.

All houses had evidence of moisture problems that could be associated with high interior moisture levels. These included mould growth on window frames and in some areas of the ceilings. At the time of selection, none of the units were suspected of having structural problems resulting from moisture collection.

The findings of the project were that all three fan installations were somewhat effective in limiting exposure of the house to high internal humidity levels. There was not a clear link between control of humidity and reduction of those moisture problems evident in the houses.

MUNICIPAL GOVERNMENT AND FINANCE / ADMINISTRATION MUNICIPALE ET FINANCES

126.
TITLE : Beyond Boosterism: An Examination of Future Directions in Municipal Economic Development
AUTHOR : Barbara A. McEwan
IMPRINT: Term Paper (Public Administration) - Carleton University, 1986 (Scholarship Program)

This paper seeks to describe and explain the contrast between traditional approaches to municipal economic development and the newer, community-based approaches emerging in the field. An examination of the relationship between the economic development agencies of the Regional Municipality of Ottawa-Carleton and the City of Ottawa serves as the basis for comparing approaches to economic development.

Results indicate that recent trends favour community-based economic initiatives: entrepreneur centres; small business development programs; and outreach programs. However, marketing and promotion are still seen as very important efforts to be undertaken by both politicians and bureaucrats, especially in the Ottawa Region.

127.
TITLE : Public Transit and the Public Interest: An Empirical Evaluation of Two Administrative Models
AUTHOR : Frances Frisken
SERIES : Institute of Urban Studies: Report No. 15
IMPRINT: Winnipeg, Man.: Institute of Urban Studies, University of Winnipeg, 1986.

Two administrative models have long dominated discussions about the appropriate way to manage publicly-owned urban mass transit systems. One, the independent commission or public corporation model, rests on the principle that the public transit agency is in the business of producing a good for sale to those willing to pay the price. It calls for an organizational structure that permits the agency to operate as much as possible like any private firm, free to tailor its activities to market conditions within constraints conducive to management efficiency but without external interference - particularly interference from political bodies or from persons motivated by "political" considerations. The second model derives from a view of transit as a necessary public service that belongs, with other government services, under the immediate control of locally elected politicians who will ensure that its operations conform to government and community priorities. Each of these models contains implicit assumptions both about the nature of local politics and the implications of local government structure for the realization of objectives commonly associated with urban transit. This paper bases an examination of some of these assumptions on an extended case study of the transit system that has served the City of Toronto and its suburbs throughout this century.

128.
TITLE : The Windsor Municipal Archives: Heritage Development in Hard Times
AUTHOR : Mark Walsh
SERIES : Institute of Urban Studies, Urban Resources Paper No. 1
IMPRINT: Winnipeg, Man.: Institute of Urban Studies, 1985

This paper traces the history of archival development in Windsor from the fall of 1978 to the present. Windsor was able to establish its Municipal Archives at the Windsor Public Library during a period of economic restraint by accommodating both heritage and management concerns. Although the City of Windsor and the community were ready to support the establishment of municipal archives, careful planning and management were required for sustained archival activity.

NATIVE PEOPLES / AUTOCHTONES

129.
TITLE : CMHC Program Evaluation of the Rehabilitation Assistance Program: Summary Report
AUTHOR : Judith Anderson
IMPRINT: Summary Report (Master of Social Work) - University of Toronto, 1986 (Scholarship Program)

This study evaluates the effectiveness of the RRAP program in improving housing conditions "on reserve" in Saskatchewan.

The findings indicate that:

1. Program coverage is not consistent across the province and among reserves.

2. Out of a potential 5,625 eligible homes, the program serviced only 319 which is 5% of the total.

3. The actual home dwellers had no input at either the band level or government level. Many were not aware of the CMHC program.

4. DIAND is responsible for the dissemination of housing information to the band; yet it is CMHC that controls the budget dollars.

The author recommends that CMHC be involved in the total implementation of the program from dissemination to helping the bands organize maintenance/upkeep.

130.
TITRE : Contrôle de 1986 du Programme de démonstration pour les ruraux et les autochtones de la SCHL
AUTEUR : Larsson Consulting Limited pour la SCHL
ADRESSE BIBLIOGRAPHIQUE: Ottawa: SCHL, 1987

Ce rapport présente les résultats d'une évaluation de 19 projets financés dans le cadre du Programme de démonstration pour les ruraux et les autochtones (LRA) et de quatre projets financés dans le cadre de l'Alberta Rural Homeownership Assistance Program (RHAP) ou du Programme d'accession à la propriété (PAP) des Territoires du Nord-Ouest. L'objectif de ce Programme consiste à fournir une aide appropriée aux personnes à faible revenu habitant des régions rurales et éloignées pour construire leur propre maison. On s'attend aussi du Programme qu'il permette la production de maisons ayant des coûts en immobilisations de beaucoup inférieurs à ceux d'autres types de logements de la SCHL dans les régions isolées.

Also available in English.

131.
TITLE : Evaluation of CMHC On-Reserve Housing Programs: Summary Report
AUTHOR : National Indian Housing Council, Assembly of First Nations for the Program Evaluation Division, CMHC
IMPRINT: Ottawa: CMHC, 1986.

The purpose of this paper was to examine CMHC housing programs on reserves from the point of view of housing program delivery and management.

The report provides the following conclusions and recommendations:

- CMHC's programs on-reserve are meeting CMHC's basic objectives.

- There is a large unmet need for training in band housing management.
- CMHC should either assume total control of the program and its policies or relinquish all control to INAC, the agency responsible for providing shelter to Indians on-reserve.
- Homeownership on-reserves should be seriously considered.

132.
TITLE : Indian Participation and Consultation in the Review of the Summary Report of the CMHC On-Reserve Housing Program Evaluation: Report to Canada Mortgage and Housing Corporation
AUTHOR : Ron Albert
IMPRINT: Ottawa: CMHC, 1986.

The objective of this project was to provide input from Indian people to CMHC's evaluation of its housing programs. This report summarizes the regional consultation meetings and provides the following recommendations on CMHC's programs:

- Development of a single consolidated on-reserve housing program under INAC;
- Improved financial support for band housing authorities, funds for project development and administration, research and development, and adequate training to administer CMHC programs;
- A lower rent-to-income rate and a realistic market rent scale;
- An increase in the RRAP forgivable loan;
- Qualified Indian inspectors to carry out CMHC inspections; and
- Consultation with Indian people on the proposed transfer of CMHC (on-reserve) to INAC.

133.
TITLE : 1986 Monitoring of CMHC's RNH Demonstration Program
AUTHOR : Larsson Consulting Limited for CMHC
IMPRINT: Ottawa: CMHC, 1987.

This report presents the results of an assessment of 19 projects funded under the Rural and Native Housing Demonstration Program, (RNH), and four projects funded under the Alberta Rural Homeownership Assistance Program (RHAP) or the Northwest Territories Homeownership Assistance Program (HAP). The objective of the program is to provide appropriate assistance for low-income people living in rural and remote areas to construct their own houses. The Program is also expected to produce housing at a much lower cost than other types of CMHC housing in remote areas.

Aussi disponible en français.

134.
TITRE : Programme de démonstration de logements pour les ruraux et les autochtones par Thermocube Inc.: rapport et manuel de construction
AUTEUR : Raymond Couture, Thermocube Inc. pour la Division de la mise en oeuvre des projets, Secteur des politiques de recherche et programmes, SCHL
ADRESSE BIBLIOGRAPHIQUE: Ottawa: SCHL, 1987

L'objectif de ce rapport est d'adapter le système Thermocube (système à caissons cellulaires monocoques) pour rencontrer les limitations de critères et de budget du programme de démonstration de logements pour les ruraux et les autochtones. Le rapport contient un plan de maison, des dessins d'atelier, des instructions de montage, un manuel de construction et un résumé de rapport qui inclut les coûts ventilés de construction.

135.
TITLE : Rural and Native Demonstration Program: Construction System Development by Add-On Buildings Ltd.: Report and Construction Manual
AUTHOR: Joseph Skvaril, Add-On Buildings Ltd. for the Project Implementation Division, Policy, Research and Programs Sector, CMHC
IMPRINT: Ottawa: CMHC, 1987.

The objective of this project was to adapt the construction system developed by Add-On Buildings Ltd. to meet the design criteria and budget limitations of the Rural and Native Demonstration Program. The report contains shop drawings, lists of supplies, cost estimates, and a "Do-It-Yourself" House Manual designed to be used by a non-professional homeowner/builder in building his three-bedroom home from the Add-On Buildings Ltd.'s self-containing packages or "kits".

136.
TITLE : Shelter House: A Rural and Native Demonstration House Design
AUTHOR: Shelter Ltd. for CMHC
IMPRINT: Ottawa: CMHC, 1987.

The Shelter House design of a Rural and Native Demonstration House has been prepared for the use of the do-it-yourself home builder.

The report contains floor plans of the design, information on proper site selection for the unit, and detailed step-by-step instructions from construction of the footings to the installation of a fresh air heat exchanger. A building materials checklist is also provided.

The finished product has 4 bedrooms upstairs with an open living-dining-kitchen area on the lower level. The total living space is 1,248 square feet.

NEIGHBOURHOOD IMPROVEMENT & PRESERVATION / AMÉLIORATION ET CONSERVATION DES QUARTIERS

137.
TITLE : Neighbourhood Revitalization and the Old Northern Suburb
AUTHOR: Patricia Mae Richards
IMPRINT: Thesis (Master of Urban and Rural Planning) - Technical University of Nova Scotia, 1986 (Scholarship Program)

The purpose of this thesis is to examine some of the factors affecting neighbourhood revitalization for part of the Old Northern Suburb in Halifax, and to assess the role that the RRAP program has played in the revitalization process.

Results indicate that people moved into the Old Northern Suburb because of location and price and not because of the availability of RRAP funds. However, RRAP funds allowed longtime, low-income residents to do necessary repairs to their homes and permitted landlords to upgrade rental accommodations. The author suggests that the Old Northern Suburb may never become a truly gentrified neighbourhood, but rather will probably continue to provide some type of affordable accommodation for lower and middle income groups.

138.
TITLE : Reinhabiting the Fort Point Channel: A Proposal for Transforming and Extending the Warehouse District in South Boston
AUTHOR: John Randall Dale
IMPRINT: Thesis (M.Sc. in Architecture) - Massachusetts Institute of Technology, 1986 (Scholarship Program)

The key principles underlying the design approach in this study are:

1. To establish a clear urban design framework operating beyond the confines of individual projects so that co-ordinated

development can extend across the Fort Point Channel area as a whole;

2. To preserve as much of the surviving warehouse fabric as possible through upgrading and transformation;
3. To promote, on adjacent sites, a high-density but predominantly lowrise building fabric;
4. To provide a unified transportation infrastructure; and
5. To develop a comprehensive open space network for pedestrians capable of meeting both the regional needs of the proposed Boston Harborwalk and the everyday needs of a permanent residential community.

THE NORTH / LE NORD

139.
TITLE : Development of a Guide to the Planning, Design and Construction of Housing in the North
AUTHOR: Canada Mortgage and Housing Corporation, Research Division for the Native Business Summit, 23-27 June 1986, Convention Centre, Toronto, Ontario
IMPRINT: Ottawa: CMHC, 1986

This paper describes the research initiatives that are designed to lead to the production of a comprehensive guide document on the planning, designing, and construction of northern housing.

The research initiatives, to be undertaken by Canada Mortgage and Housing Corporation, in collaboration with the Institute for Research in Construction at NRC, and Indian and Northern Affairs Canada are:

- The development of guidelines dealing with significant issues that must be considered in the planning and architectural design of northern housing;
- The collection and presentation of information on the performance of current building systems and practices in the north; and
- The scientific and technical evaluation of a wide variety of building systems and practices.

Aussi disponible en français.

140.
TITRE : Élaboration d'un guide de planification, de conception et de construction des logements dans le nord.
AUTEUR : Société canadienne d'hypothèques et de logement, Division de la recherche pour les sommet des affaires autochtones du 23 au 27 juin 1986, Convention Centre, Toronto, Ontario
ADRESSE BIBLIOGRAPHIQUE: Ottawa: SCHL, 1986

Ce document décrit trois projets de recherche qui sont préalables à la publication d'un guide détaillé sur la planification, la conception, et la construction des logements dans le Nord.

Les projets de recherche que la Société canadienne d'hypothèques et de logement entreprend, en collaboration avec l'Institut de recherche en construction du CNRC et le ministère des Affaires indiennes et du Nord, sont:

- Élaboration de directives traitant des questions d'importance à considérer dans la planification et la conception architecturale des logements du Nord;
- Collecte et présentation de données sur la tenue en service des systèmes de construction actuels et les méthodes en pratique dans le Nord; et
- Évaluation technique et scientifique de toute une gamme de systèmes et de méthodes de construction.

Also available in English.

141.
TITLE : Planning and Architectural Considerations for Northern Housing
AUTHOR : Don Jossa and Associates, Richard Bushey Planning, and Wayne Wilkinson Consulting
IMPRINT: Ottawa: CMHC, 1987

The objective of this study was to provide a comprehensive, concisely written and illustrated guide on significant aspects of the planning and architectural design of Northern housing for design professionals, the construction industry, housing and regulatory bodies, and those agencies representing Northern groups.

The study concentrated on the significant areas affecting housing in the North: climate; geography; living patterns and lifestyles; housing and its relationship to the community; transportation; logistics and economics of construction; and maintenance and operations of buildings and equipment.

142.
TITLE : Pressuremeter Creep Testing in Laboratory Ice.
AUTHOR : Bruce H. Kjartanson
IMPRINT: Thesis (Ph.D.) - University of Manitoba, 1986 (Scholarship Program) 2v.

The validity and applicability of two theories of creep - the power law and the modified second-order fluid model - were investigated using single and multistage pressuremeter tests. The creep information obtained from the single and multistage tests compared very well for both models. However, the modified second-order fluid model produced less scatter. The multistage tests revealed that the past history of applied stresses has little effect on the nature of creep; rather, the amount of accumulated strain appears to be the controlling factor.

The author concludes that the modified second-order fluid model is preferable to the simple power law model. He recommends the use of the OYO Elastmeter-100 pressuremeter or a similar unit with an electronic radius measuring device for testing frozen soils or ice.

143.
TITLE : Space Frame Foundation System Permafrost: Feasibility Report #1
AUTHOR : Ferguson, Simek, Clark, Engineers and Architects for the Project Implementation Division, CMHC
IMPRINT: Ottawa: CMHC, 1987

The objective of this project was to develop and monitor a structural framing system that would resist or avoid the racking forces the otherwise crack and distort the building envelope in northern house construction. A three point space frame was designed, developed, and installed in consultation with CMHC, NWTHC and a space frame manufacturer.

The conclusions were that the 3-point space frame concept performed as designed and was found to be simple to install. A multiple point system would work equally well, at less cost, as the frame was found to be rigid enough if the loads were spread evenly over the entire area of the building, rather than over only three points.

144.
TITLE : Yukon Housing Needs Study.
AUTHOR : Institute of Urban Studies, University of Winnipeg
IMPRINT: Ottawa: CMHC, 1986

This study offers an assessment of housing conditions in the Yukon. The assessment was made using original data created through a door-to-door survey technique in 17 communities identified by the

Yukon Housing Corporation. The data base, which is computer-based, allows for an assessment of three housing indicators - crowding, adequacy, and affordability from which core housing need can be derived.

PUBLIC/SOCIAL HOUSING / LOGEMENT SOCIAL

145.
TITLE : An Economic Analysis of Public Housing in Yellowknife, Northwest Territories
AUTHOR : Margaret Jean Steele
IMPRINT: Thesis (M.Sc.) - University of British Columbia, 1986 (Scholarship Program)

This thesis evaluates the Public Housing Program in Yellowknife in terms of economic efficiency and equity from the viewpoints of the Canadian public and the residents of the N.W.T. In both cases, the Net Present Value calculated from measurable costs and benefits is negative, suggesting that the program is not economically efficient. However, advocates of the program may find support in the equity achievements of the program or in recent research which suggests that public housing programs have smaller work disincentive effects than programs of cash transfers.

146.
TITLE : Patterns of Support: The Use of Support Services Among Family Public Housing Tenants in Ontario
AUTHOR : Margaret A. Denton and Christine K. Davis, with the assistance of Brenda J. Nussey
IMPRINT: Toronto, Ont.: Ministry of Housing, 1987

The purpose of the study was to identify the extent to which families in public housing have difficulties with the activities of daily living and the kinds of support they use -- informal assistance from family, friends and neighbours, and/or formal services from community agencies.

The study involved two separate surveys: the first was a face-to-face interview with 521 family public housing tenants; the second was a mailed survey to 137 service providers and agencies. Both surveys afforded higher than average response rates — 83.2% and 72.8% respectively.

In total, 11 communities were selected for study, including Belleville, Etobicoke, London, North York, Owen Sound, Peterborough, St. Catharines, Scarborough, Sudbury, Toronto and York.

147.
TITLE : Perceptions of Housing Satisfaction: A Comparison Between Residents and Designers of Low-Income Family Housing in Manitoba
AUTHOR : Catherine Charette
IMPRINT: Thesis (Master of Landscape Architecture) - Iowa State University, 1986 (Scholarship Program)

The purpose of this study was to determine how residents and designers of housing for low-income families in Manitoba compare in their perceptions of factors associated with making housing a good place for living, and factors specifically associated with safety and privacy. The long-term objective was to identify areas in which designers seem to lack awareness of residents' needs and to propose means to increase designers' awareness of residents' needs.

The study found that designers and residents tended to differ on the relative importance of individual factors rather than collective groups of factors. It was also found that residents' and designers' perceptions of safety were more similar than their perceptions of what makes a place a good place for living or privacy.

148.
TITLE : The Role of the Limited Dividend/Entrepreneurial Program in Canadian Social Housing Policy
AUTHOR : Doris M. Schwar
IMPRINT: Major Paper (Master in Environmental Studies) - York University, 1987 (Scholarship Program)

It was the purpose of this paper to identify the legislative and regulatory changes that account for current conditions in Limited Dividend/Entrepreneurial housing. It traces the development of the concept of limited dividend housing from its philanthropic origins in mid 19th century Europe to an instrument of economic policy. It is demonstrated that successive legislative and administrative changes have contributed to current problems by increasingly strong appeals to the profit motive, and by a correspondingly diminished concern about the low income provisions of post-1946 programs. Three factors have been considered in the determination of the parameters of this study: the deterioration of the housing built under the program; the ineffectiveness of efforts to improve living conditions in these buildings; and the lack of government policy to prevent the loss of these units to the low income housing market in the future.

RENTAL HOUSING / LOGEMENT LOCATIF

149.
TITLE : CMHC Flexible Use and Tenure Study: Summary Report and Technical Report
AUTHOR : The Starr Group in Association with Richard Drdla Associates and Jerome Markson Architects
IMPRINT: Ottawa: CMHC, 1987, 2 volumes.

The objective of this study was to explore the potential for designing and building new residential units with the built-in capability to accommodate a self-contained rental unit at any stage of its occupancy. Eighteen "made-to-convert" housing examples were designed with twenty-two different accessory units. The study provides examples of these convertible designs with an economic analysis of their conversion based on calculated costs for each case. In addition, the economic viability of seven conversion schemes was assessed within the Metro Toronto market. The recoverability of the conversion costs and the affordability of these units was also examined.

The report concludes that new "made-to-convert" housing can be both physically feasible and economically attractive, and that there are a wide range of conventional housing schemes capable of conversion. In suitable locations, the rent from the accessory units can exceed the conversion and operation costs by a significant amount.

A separate technical report was also prepared to document the research undertaken in the study.

150.
TITLE : The Measurement of the Affordability of Housing
AUTHOR : Elisabeth Solveig Arnold
IMPRINT: Thesis (Master of Urban and Regional Planning) - Queen's University at Kingston, 1986 (Scholarship Program)

This thesis compares three commonly used methods of measuring the affordability of housing: the rent to income ratio, the core need method, and the income gap method. The methods are compared in three time periods: 1972, 1976, and 1983. The incidence of affordability problems in the renter population is measured in aggregate and by income quintiles. Statistical tests are used to determine if affordability has changed over the study period. The results show that although the average affordability of housing changed very little for Ontario renters from 1972 to 1983, there were some changes for the lower income quintiles depending on the method used. The results also show that different methods show different distributions of the problem.

The author suggests that the core need method may exclude some households who are experiencing housing affordability problems and recommends that housing policy decisions be based on the rent to income ratio, used with limits on household income.

151.
TITLE : New Formulae for Rent Controls
AUTHOR : Raymond Michel Cherrier
IMPRINT: Research Paper, McGill University, 1986 (Scholarship Program)

This paper proposes politically acceptable measures to partially deregulate the rental market in Quebec. It recommends three new formulae to stimulate the supply of rental housing and promote competitive pricing.

The "One & Three" formula proposes the creation of leases based on a one year term, with a three year security of tenure. Rental increases would be controlled by existing regulations, but after the 3rd year the landlord would be entitled to determine the price for his rental unit.

The Condo Conversion Formula would allow the conversion of existing apartment buildings to condominiums under the proviso that one half of all units be reserved for rental accommodation.

The Rent Posting Formula would require that all building owners post their rental rates and their attending services in a public space within their buildings.

RESIDENTIAL DEVELOPMENT/AMÉNAGEMENT RÉSIDENTIEL

152.
TITLE : The Impact of Differing Lot Levies on Lower Priced Housing Distribution
AUTHOR : Sedley Associates Inc.
IMPRINT: Ottawa: CMHC, 1986 (External Research Program)

This study was undertaken to determine whether lot levy differences among neighbouring municipalities serving a single housing market have an impact on the distribution of lower priced housing among municipalities.

Statistical analysis of the price and levy data for the period 1981-1985 in the municipalities of Brampton, Oakville, Vaughan, Mississauga, and Richmond Hill failed to show any statistically meaningful relationships between lot levy differences among the municipalities and house prices or lot sizes. The report concludes that new house prices are mainly a function of market demand and do not appear to be affected by the absolute amount of the lot levy in any one municipality or by the differences between lot levies in neighbouring municipalities serving the same housing market. A more detailed econometric model of housing demand is required to fully determine the relationship between lot levies and house prices.

153.
TITLE : Municipal Lot Levies in the Province of Ontario: Toward the Efficient Pricing of Urban Public Services
AUTHOR : Barbara A. McEwan
IMPRINT: Term Paper (Cost-Benefit Analysis) - Carleton University, 1987 (Scholarship Program)

The purpose of this paper is to analyze the use of the municipal lot levy as a pricing mechanism for re-couping off-site capital service costs associated with new residential development. The paper explores the purpose and objectives of lot levies, reviews some of the major issues pertaining to lot levy practice in the Province of Ontario, and identifies a standard methodology for calculating levies that balance efficiency, equity, and other public policy objectives.

154.
TITLE : Small and Large Developers Under Regulation
AUTHOR : Andrew Clinton Munro
IMPRINT: Thesis (Master of Urban and Regional Planning) - Queen's University, 1987 (Scholarship Program)

This study has examined the effect of planning regulation on those areas of organization that are recognized to differentiate the small and large firm, namely: liquidity, debt, and decision making. The study is confined to developers in the Waterloo Region during the boom market of 1986.

There was little difference noted between small and large firms in their financial success under provisions of the Planning Act of Ontario. Large and small firms did, however, adopt different strategies, both in financing and in the type of projects undertaken. The similar success of the two types of firms is attributed to 1) the adaptations made by each group and 2) the market in which they operate.

RESIDENTIAL REHABILITATION / REMISE EN ETAT DES LOGEMENTS

155.
TITLE : The Canadian Renovation Market
AUTHOR : Canada Mortgage and Housing Corporation, Program Evaluation Division for the 43rd National Conference/Exposition, Canadian Home Builders' Association, 2-5 February 1986, Edmonton, Alberta
IMPRINT: Ottawa: CMHC, 1986

This paper focuses on the residential renovation sector from the industry point of view. It examines the growth and magnitude of residential renovation and attempts to isolate the component directly attributable to the construction industry. It also examines "need for major repair" to determine where renovation work may exist, and uses expenditures on renovation to compare need with actual work done. The future growth of the market is projected and demographics of the renovation clientele are introduced to clarify the nature of work most likely to grow.

The paper also discusses the characteristics of renovation firms and their workforce and explains the bases for renovation and new construction employment potential. These are then extrapolated in direct job creation impacts for both renovation and new construction.

Aussi disponible en français.

156.
TITRE : Dynamique de la famille, ajustements résidentiels et souplesse du logement: recherche exploratoire portant sur la relation entre les dimensions évolutives de la vie des gens et les modifications que ces derniers apportent à leur logement ou à son usage afin de l'adapter à leurs besoins
AUTEUR : Pierre Teasdale et Martin Wexler pour la Division de la recherche, Société canadienne d'hypothèques et de logement
ADRESSE BIBLIOGRAPHIQUE: Ottawa: SCHL, 1986, c1987

Texte en anglais et en français.
Text in English and French.

Cette étude porte sur la relation entre les changements qui se produisent à travers le cycle de la vie des gens et les modifications que ces derniers apportent à leur logement ou à son usage. Pour ce faire on a comparé comment des familles comprenant des adolescents et des jeunes adultes ont réussi, au cours des années, à ajuster leur logement à leurs besoins. L'étude a été faite sur la base de données

recueillies auprès de vingt familles qui étaient propriétaires et qui habitaient dans les plexs et des maisons uni-familiales de la région de Montréal depuis environs dix-sept ans. L'étude documente l'évolution des besoins résidentiels de la famille, les pressions que ces besoins exerçent sur le logement et les caractéristiques architecturales qui entravent ou favorisent la réalisation de ces besoins. Elle donne des directives aux architectes, aux constructeurs, aux responsables investis d'un pouvoir de réglementation, aux agents immobiliers et au grand public, pour que les logements soient plus adaptables par rapport aux exigences dynamiques de la famille.

This study explores the relationship between the various events that occur during the family life cycle and the changes in use or physical modifications that occupants make to their dwelling in order to adjust it to their changing needs. The basic research design involves a comparison of Montreal region families mainly composed of teenagers and young adults having owned and lived in the same single-family dwelling or plex for approximately seventeen years. The study documents how residential needs evolve while households continue to live in the same dwelling and identifies the types of pressure that these needs exert on the dwelling. The study also identifies architectural dwelling components that either inhibit or support adaptations responsive to life cycle changes. It provides guidelines to architects, builders, regulatory officials, realtors, and the public for the internal design of dwellings that are adaptable to long-term occupancy.

157.
TITRE : Enquête nationale sur l'industrie de la rénovation résidentielle: résumé des résultats préliminaires
AUTEUR : Société canadienne d'hypothèques et de logement, Division de l'évaluation de programme
ADRESSE BIBLIOGRAPHIQUE: Ottawa: SCHL, 1987

Ce rapport expose brièvement les résultats préliminaires de l'enquête menée par la Société canadienne d'hypothèques et de logement (SCHL) auprès des entreprises qui constituent l'industrie de la rénovation résidentielle au Canada. Cette enquête a permis de sonder l'opinion des gestionnaires d'entreprise sur la nature de leurs activités et sur les conditions d'exploitation au sein de l'industrie. Elle représente une tentative inédite pour recueillir des statistiques nationales sur les traits caractéristiques et les points de vue de l'industrie.

Also available in English.

158.
TITRE : Enquête sur l'industrie de la rénovation résidentielle en Nouvelle-Ecosse: résultats préliminaires
AUTEUR : Société canadienne d'hypothèques et de logement, Division de la recherche; effectuée avec la Nova Scotia Home Builders' Association et la Province de la Nouvelle-Écosse
ADRESSE BIBLIOGRAPHIQUE: Ottawa: SCHL, 1987

Cette étude a été entreprise dans le but de dresser avec précision, pour la première fois, le profil de l'industrie de la rénovation résidentielle au Canada. L'enquête a été conçue de façon à définir les caractéristiques des personnes et des sociétés actives dans cette industrie et à recueillir des renseignements sur les questions qui préoccupent les membres de l'industrie. L'enquête a de plus permis de produire des données sur l'envergure du marché de la rénovation en Nouvelle-Écosse et sur la perception qu'a le consommateur du rendement de cette industrie, jusqu'à maintenant.

Also available in English.

159.
TITLE : Ethnicity and Housing Adaptation: The Italians in Montreal
AUTHOR : John G. Fainella
IMPRINT: Thesis (M.A.) - McGill University, 1986 (Scholarship Program)

This study examines the effect of ethnicity on structural adaptations carried out in the residences of recent home purchasers on the Island of Montreal.

Results of qualitative field work and a telephone survey showed significant differences by ethnic group in the amount of structural work performed and in the occurrence of duplicate facilities. The Canadian French were less likely than the Canadian English to have done maintenance work. The Italians, however, were significantly more active in doing light functional work than the Canadian English and showed a marked preference for multi-family dwellings with duplicate facilities. Evidence indicates that socio-economic factors influence structural modifications whereas socio-psychological variables relating to lifestyles and the dislocation of migration influence the requirement for duplicate facilities.

160.
TITLE : Final Report for the 1986 National Housing Study
AUTHOR : Ekos Research Associates for the Program Evaluation Division, CMHC
IMPRINT: Ottawa: CMHC, 1987

This report provides a comprehensive overview of the survey methodology used during the National Housing Study. The survey provided information in three key areas: occupant/owner perceptions of the condition of their property; renovation work done in 1985; and the socio-economic characteristics and building operating costs of publicly-assisted renovators, non-assisted renovators, and non-renovators.

The results of the survey indicate that the random digit dialing and telephone interview method was highly successful in generating a representative sample with mailing address information. The mail survey method also proved to be very effective. The data quality was also good with the sample being unbiased in most respects.

161.
TITLE : Government Involvement in Residential Renovation: A Rationale Review and Study of Intervention Impacts
AUTHOR : S.W. Hamilton, Dennis Capozza and Robert Helsley for CMHC
IMPRINT: Ottawa: CMHC, 1986

The purpose of this paper is to provide the investor's point of view on what the nature of government involvement in regulating residential renovation should be and to consolidate existing study findings on the impacts of regulations on residential renovation.

The report concludes that too little empirical evidence exists to quantify the investment-related impacts of government involvement in residential renovation. The existing literature suggests a number of areas for new regulations, but more empirical work is needed before new regulations are considered.

162.
TITLE : Government Involvement in Residential Renovation: The Legal Basis: Discussion Paper
AUTHOR : Marc C. Denhez
IMPRINT: Ottawa: CMHC, 1986

The report is a summary of current legal statutes and jurisprudence drawn from the author's past research in the area of historic preservation and residential renovation. It touches on those legislative topics most likely to directly impact the renovation process.

There are four major types of findings and related recommendations provided by the author:

1. The codification of equivalents, at the Provincial and Territorial level, to the National Building Code, of provisions to be applied to renovation;
2. Renovation warranty protection for consumers and legislative protection for building inspectors;
3. A review of current renovation treatment under the tax system as it affects improving the housing stock, the investment value of renovation, the level of renovation activity vis à vis the property tax system; and
4. An impact assessment on renovation of the Canadian Charter of Rights and Freedoms and renovation as a component in official plans.

163.
TITLE : Light Weight Steel: Apartment Intensification Study
AUTHOR : Colin Bent and Associates, Architects for the Project Implementation Division, Policy Development and Research Sector, CMHC
IMPRINT: Ottawa: CMHC, 1986

The purpose of this study was to determine whether light weight steel construction represents a cost effective method of adding floors to older masonry structures. Three low-rise masonry apartment buildings in the Metropolitan Toronto area were selected for intensive study. Each existing building was analyzed in detail; proposed intensification plans were prepared; and extensive costing was undertaken.

In terms of technical feasibility, the study revealed that the physical characteristics of existing buildings pose a lesser challenge than do planning requirements. In terms of financial feasibility, intensification with light weight steel additions would appear to be cost effective, resulting in reductions of 6% in the rent increase arising from a major renovation along, and of 12% in the rent increase arising from demolition and redevelopment. However, in most cases, this still entailed rent increases of 25-30%.

164.
TITRE : Le Marché canadien de la rénovation
AUTEUR : Société canadienne d'hypothèques et de logement, Division de l'évaluation de programme pour la 43e Conférence-exposition nationale de l'Association canadienne des constructeurs d'habitations, 2-5 février, 1986, Edmonton, Alberta
ADRESSE BIBLIOGRAPHIQUE: Ottawa: SCHL, 1986

Cette étude présente une vue d'ensemble de l'industrie de la rénovation. Elle examine la croissance et l'ampleur de la rénovation résidentielle, en essayant de cerner quelle part en revient à l'industrie du bâtiment. Elle étudie également l'ampleur des travaux de rénovation sous un autre angle-nécessité de réparations majeurs - pour déterminer où ces réparations seraient nécessaires, et elle compare les besoins avec les travaux accomplis par le moyen des dépenses engagées à ce titre. Une extrapolation de la croissance à venir du marché et un examen des facteurs démographiques permettent d'établir quels genres de travaux sont les plus susceptibles d'être en demande.

Les caractéristiques des entreprises de rénovation et de leur main-d'oeuvre sont examinées afin d'expliquer sur quoi se base le potentiel d'emploi de la rénovation et de la construction neuve et, par extrapolation, combien d'emplois directs ces deux activités peuvent engendrer.

Also available in English.

165.
TITLE : National Residential Renovation Industry Survey: Summary of Preliminary Findings
AUTHOR : Canada Mortgage and Housing Corporation, Program Evaluation Division
IMPRINT: Ottawa: CMHC, 1987

This report presents a brief summary of the preliminary results of the Canada Mortgage and Housing Corporation (CMHC) survey of firms in the residential renovation industry in Canada. The survey polled company managers about the nature of their business and about operating conditions within the industry. The survey represents a first-time effort to collect national statistical evidence on industry characteristics and opinions.

Aussi disponible en français.

166.
TITLE : The Provinces and Property Maintenance Bylaws: Review of Provincial Enabling Legislation, Policies and Activities in Support of Municipal Maintenance and Occupancy Bylaws
AUTHOR : Robert L. Hale
IMPRINT: Ottawa: Residential Improvement Division, CMHC, 1986

CMHC published in 1982, A Profile of Successful Maintenance and Occupancy Experience in Canada. The report not only examined a number of M&O bylaw programs that were being effectively administered, but also identified the major factors preventing or discouraging municipalities from undertaking such programs.

The present study is a record of provincial legislation, policies and activities affecting the maintenance of residential properties. It examines, as well, a range of policies and activities, beyond M&O bylaws, that also help to maintain the existing housing stock. This includes various kinds of fire prevention activity, as well as enabling legislation for dangerous and derelict buildings and nuisances (which most provinces have had before enabling legislation for M&O bylaws, was enacted). The study also describes, in some provinces, remedies for poor housing conditions available to tenants, and in some cases landlords, under residential tenancies laws.

167.
TITRE : Les Provinces et les règlements d'entretien des propriétés: une analyse des lois habilitantes, des positions et des activités des provinces à l'appui des règlements municipaux d'entretien et d'occupation
AUTEUR : Robert L. Hale
ADRESSE BIBLIOGRAPHIQUE: Ottawa: Division de l'amélioration des logements, SCHL, 1986.

En 1982, la SCHL publiait un rapport intitulé "Une expérience réussie au Canada en matière de règlements touchant l'entretien et l'occupation". Ce document passait en revue un certain nombre de programmes d'application des règlements d'entretien et d'occupation dont l'administration donnait de bons résultats, et recensait par ailleurs les principaux facteurs qui empêchaient ou dissuadaient les municipalités de réaliser de tels programmes.

La présente étude examine les lois, principes directeurs et activités des provinces touchant l'entretien des immeubles résidentiels. Celui-ci examinait, par ailleurs, au delà des règlements d'entretien et d'occupation, une gamme de politiques et d'actions qui contribuent à l'entretien du parc immobilier existant, notamment diverses formes de mesures sur la prévention des incendies et les lois habilitantes concernant les bâtiments délabrés et les nuisances dangereuses (en vigueur dans les provinces bien avant la promulgation des lois habilitantes relatives aux règlements d'entretien et d'occupation). Enfin, à propos des mauvaises conditions de logement, le rapport parle des remèdes proposés, dans certaines provinces, aux locataires et dans certains cas, aux propriétaires-bailleurs également, en vertu des lois sur les baux résidentiels.

168.
TITLE : Sources of Residential Rehabilitation Data
AUTHOR : Canada Mortgage and Housing Corporation, Statistical Services Division for the Building Renovation Forum, April 14, 1986
IMPRINT: Ottawa: CMHC, 1986

This document presents a brief overview on the national sources of data on expenditures on the existing dwelling stock provided by Statistics Canada. The sources presented are:

- Building permits
- Census of Canada 1981
- Family Expenditure in Canada
- Construction in Canada
- Household facilities and equipment
- National income and expenditure accounts

169.
TITLE : A Study of the Residential Renovation Industry in Nova Scotia: Preliminary Results
AUTHOR : Canada Mortgage and Housing Corporation, Research Division; with the assistance of the Nova Scotia Home Builders' Association and the Province of Nova Scotia
IMPRINT: Ottawa: CMHC, 1987

The study was undertaken to develop the first in-depth provincial profile of the residential renovation industry in Canada. The study was designed to identify the characteristics of individuals and firms active in the industry and to generate information on the issues which industry members face. In addition, the study produced information about the size of the renovation market in Nova Scotia and the reaction of the consuming public to the performance of the industry to date.

Aussi disponible en français.

170.
TITLE : Understanding Historic Character for Appropriate Housing Rehabilitation
AUTHOR : Peter D. Charles
IMPRINT: Thesis (M.Sc.) - University of Oregon, 1986 (Scholarship Program)

This thesis examines the quality of preservation achieved through the 25% investment tax credit for historic preservation in conjunction with other incentives. It also explores the total effect of these programs in stimulating alternatives to new housing and gives a sampling of the type and character of housing that results when historic interiors are adapted for contemporary use.

Five certified housing rehabilitation projects from the state of Oregon are discussed, examining the process of rehabilitation and the degree of historic character actually identified and retained. The observations made throughout the case studies lead to several conclusions about the disappointing level of preservation of historic interiors where reuse for housing purposes is undertaken. Although all the projects exhibit varying degrees of preservation of significant features, loss and change were for greater than preservation.

SEWAGE DISPOSAL / EAUX USÉES

171.
TITRE : Application des micro-ordinateurs dans les plans de drainage: SIMHYD: un modèle pour l'hydrologie urbaine destinée aux ingénieurs municipaux
AUTEUR : Alan Lam, Paul Wisner, et David Consuegra Zammit pour la Société canadienne d'hypothèques et de logement
ADRESSE BIBLIOGRAPHIQUE: Gatineau, Qué.: GESMEC, 1985, 2v. (Programme de bourses d'études)

Ce rapport présente un nouveau modèle-SIMHYD (Simulation Hydrogramme). Il s'agit d'un logiciel qui contribue à l'assimilation des principes de base et qui simultanément peut résoudre des problèmes pratiques au niveau des plans directeurs de drainage.

La première partie du rapport présente une description sommaire des principes sur lesquels reposent les plans directeurs de drainage et le contrôle du ruissellement. La deuxième partie de l'étude décrit les principes du développement du modèle et les différentes options hydrologiques qui le constituent. On y trouve également une comparaison entre les modèles SIMHYD et OTTHYMO. Les résultats montrent que même si le modèle SIMHYD est moins efficace que le modèle OTTHYMO, leurs performances sont tout à fait comparables.

MISCELLANEOUS / DIVERS

172.
TITLE : An Analysis of U.S. Natural Gas Deregulation: Lessons for Canada
AUTHOR : Carolyn B. Ellis for the Ontario Ministry of Energy
IMPRINT: Thesis (Master of Public Policy) - John F. Kennedy School for Government, Harvard University, 1987 (Scholarship Program)

The purpose of this report is to examine the course of deregulation of the natural gas industry in the United States to see what policies may be applicable in Canada, and specifically, Ontario. The report focuses on three specific issues: take-or-pay obligation; bypass of local distribution companies; and prudency review.

The author concludes that while the United States can provide some insights into the deregulation process, institution of deregulation in Canada will be the result of economic and political forces which are uniquely Canadian.

173.
TITLE : The Effect of the City of Winnipeg's "Upgrading" By-Law on Fire Safety in Apartment Buildings
AUTHOR : Fraser Dunford and Jodie L. Roy
IMPRINT: Ottawa: CMHC, 1986 (External Research Program)

The City of Winnipeg has a Residential Upgrading By-law which requires apartment owners to upgrade their buildings to current standards of fire safety.

Opponents of the Upgrading Program have criticized the By-law for the undue financial hardship it places on building owners and for the resulting loss of low-cost housing units due to demolitions and closures. This report attempts to address these criticisms. The investigation showed the following effects of the Upgrading By-law:

1. Fire-related deaths and injuries occurred less frequently in buildings having been upgraded to meet fire safety standards.

2. Average fire-related property losses for upgraded buildings were significantly lower than those of non-upgraded buildings.

3. Although some housing units were lost through demolition and closure as a result of the by-law, the condition of these units was such that demolition or closure would likely have occurred regardless.

174.
TITLE : Intra-Metropolitan Office Location and Technological Change
AUTHOR : Jacqueline Ann Hyde
IMPRINT: Thesis (M.A.) - University of British Columbia, 1984 (Scholarship Program)

The objectives of this thesis are:

- To determine how technological change may impact upon office location within the urban region; and
- To suggest how metropolitan policies might respond to changes in the spatial distribution of offices.

The main conclusion of the thesis is that while technology may in theory increase the possibilities for locational decentralization of offices, there are a broad range of economic and social frictions opposing such movement. It is suggested that metropolitan office policy and goals should be more explicitly stated; be sensitive to local characteristics; adopt a long term perspective; and incorporate more realistic strategies which coordinate a range of government policies relating to land use, economic development and transportation.

175.
TITLE : The Prospects for Home-Based Work in Canada: A Cultural Assessment of the American Home and Canadian/American Urban Differences
AUTHOR : George F. Venini
IMPRINT: Master's Degree Project (Master of Environmental Design (Architecture)) - University of Calgary, 1987 (Scholarship Program)

The prospects for home-based work in Canada are assessed in this thesis by means of a broad analysis of Canadian and American differences which relate to domestic culture and values regarding the home and the nature of cities.

A comparison of Canadian/American cultural differences reveals that the stability of Canadian society together with the compactness of the Canadian city make Canada more amenable to the full-scale introduction of home-based work. The research also indicates that home-based work may be a profitable, satisfying part-time alternative for professional and managerial level employees but low-income workers, primarily women, may be significantly disadvantaged.

176.
TITLE : What's a Place Like This Doing in a Project Like Me?
AUTHOR : Brian R. Little, Timothy A. Pychyl and Charles C. Gordon
IMPRINT: Paper presented at symposium on "People Acting in Places," J.A. Teske (Chairperson), Eastern Psychological Association Conference, New York City, April 19, 1986 (Scholarship Program)

This paper explores the nature of the places within which the everyday pursuits of individuals are carried out, with a particular focus on the spatial characteristics of personal projects that are distinctively personal and self-defining. The theoretical and methodological framework within which the concepts are developed is personal projects analysis. Theoretically, the project analytic perspective focuses on the role that extended sets of personally relevant activity play in integrating the biological, social, cultural, and physical environmental influences to which people are exposed. This role can be seen as a kind of "final common pathway" in which the diverse personal and environmental claims on a person's attention and action are consolidated. Methodologically, personal projects analysis (PPA) provides an integrated assessment system for the elicitation, rating and exploration of people's personal projects.

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